MARINE RECORD

ESTABLISHED 1878.

VOL. XX. No. 14. CLEVELAND---APRIL 8, 1897---CHICAGO. $2.00 Per Year. 10c. Single Copy

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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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NIAGARA SUSPENSION BRIDGE.

The old suspension bridge across the gorge below Niagara Falls will soon be replaced by a steel arch double-track bridge which is now in process of construction under and around it. This suspension bridge was once one of the marvels of the age, and tourists viewed it with wonder as one of the attractions of Niagara Falls. It was built by Roebling in 1855, and has a span of 821 feet, carrying the railway tracks at a height of 245 feet above the water. The new bridge, which is now so near completion that the old suspension bridge is practically no more, will have a main span of 550 feet, connected with the bluffs on each side by spans of 115 feet.

The new bridge although less slender in its fabric than the famous suspension bridge, is a graceful specimen of modern engineering skill. It will constitute one of the "sights" of the vicinity of the great cataract, in connection with the cantilever bridge and the suspension bridge nearer the falls, which has a span of 1190 feet from cliff to cliff, and 1268 feet from the towers on each side.

NEW ROUTES TO THE SEABOARD.

The last angle bar in the Kansas City, Pittsburg & Gulf Railway, connecting Kansas City with Shreveport, Ia., has just been placed in position near Horatio, Ark. This marks the partial completion of Kansas City's pet scheme, namely, the building of a railroad from Kansas City to the Gulf, by which the gate city of the west and the southwest could become a factor in eastern freight rate competition. The officers says the trains will be running regularly May 1 between Kansas City and Port Arthur, Texas.

President Guerin of the Columbus, Sandusky & Hocking Railroad, announces that arrangements have almost been completed by that company for a through route from the Northwest to the seaboard, or from Minneapolis to Norfolk, Vo., via the Ann Arbor, Flint & Pere Marquette, Wisconsin Central, the Columbus, Sandusky & Hocking and either the Baltimore & Ohio or the Norfolk & Western. General Freight Agent Daniels has been in the Northwest and represented the company in a conference in St. Pauly with General Superintendent Collins of the Wisconsin Central; E. M. Platt of the Pennsylvania & Ohio Coal Co., at Manitowoc; J. S. Jones of the firm of Turney & Jones, of Columbus, O.; Burton Johnson, general freight agent of the Wisconsin Central, with other railroad and coal representatives interested in the work of arranging for the new route.

LAKE AND RAIL RATES.

The Board of Managers of the Joint Traffic Association has announced the lake and rail rates for the season of 1897. They take effect April 8. Westbound from New York to Duluth, they are per 100 pounds: First class, 60 cents ;second class, 52 cents; third class, 41 cents; fourth class, 30 cents; fifth class, 26 cents; sixth class, 23 cents. East-bound rates for the different classes from Lake Michigan ports are: 60, 52, 40, 30, 25, and 20 cents. From Lake Superior ports the rates are 75, 65, 50, 35, and 25 cents. Grain rates are 15 cents from Lake Michigan ports, and 17½ cents from Lake Superior ports. East-bound rates on copper are 21 cents.

AMERICAN SHIPBUILDING.

Returns to the Bureau of Navigation show that for the last nine months American vessels built and documented were 460, of 125,035 gross tons, compared with 452 vessels of 116,560 gross tons for the corresponding period of the previous fiscal year. The construction for the last nine months comprised 258 sail vessels, of 41,950 tons and 202 steam vessels of 83,084 tons.

NOTICE TO MARINERS.

MAUMEE BAY,
INNER END OF CHANNEL GAS BUOY.

Notice is hereby given that, on the opening of navigation, 1897, a gas buoy, painted black and showing a fixed white light, will be moored in the position heretofore occupied by spar buoy No. 29, on the southeasterly side of the inner end of the Straight Channel, Maumee Bay.

All mariners, and especially those having vessels or rafts in tow, are cautioned to avoid fouling this buoy.

GEORGE F. F. WILDE,
Commander, U. S. Navy, Naval Secy.

LINE BOATS.

Theodore H. Myer, secretary and treasurer of the Union Transportation Co., says that the matter of opening the seson depends entirely upon the Lake Line Association. He thinks that April 15 might be the date decided upon. He says the companies generally did not care to start until May 1, owing to the bad outlook. Rail rates are so low and business is so poor that the prospects are anything but flattering, although he hopes for a better outlook. Seven boats will be used, and they have all been overhauled. General Manager Douglass, of the Western Transit Co., says that all thirteen of his company's boats will be put in commission. They have been overhauled, and everything depends upon the weather. He cannot see any indication of possible heavy business, at least during the early part of the season.

IRON ORE.

It is stated that there are probably not less than 3,900,000 tons of iron ore on the docks at Lake Erie ports.

At the close of navigation, December 1, 1896, there were at Lake Erie ports 4,954,984 gross tons of iron ore, divided as follows: Toledo, 115,959; Sandusky, 59,491; Huron, 300,075; Lorain, 231,288; Cleveland, 1,416,311; Fairport, 773,905; Ashtabula, 1,441,665; Conneaut, 275,800; Erie, 355,222; Buffalo, 82,267.

Iron ore men do not believe that more than 1,000,000 tons of this ore have been removed to the interior or consumed at points of receipt during the period since navigation closed. This is partly due to the fact that furnaces filled their yards before navigation closed last fall and in a larger extent to the small consumption due to the hard times. Large sales of steel rails recently made are expected to produce a demand which will take another million tons from lake port docks before the opening of upper lake navigation on May 1. This would leave nearly 3,000,000 tons at the opening of navigation, 750,000 tons of which will probably be at Cleveland.

While it must be largely guesswork, there are probably 2,000,000 tons of ore lying on the stock piles of the Lake Superior ranges, awaiting the opening of navigation to come down.

The shipments of iron ore from Lake Superior ranges during 1896 amounted to 9,657,921 gross tons. The opening of navigation will probably find 4,000,000 tons on lake port or furnacemen's stock piles. In figuring the probable amount of ore to be mined and shipped, the consumption must be figured. A Duluth authority believes that it will amount to 12,000,000 tons during the season 1897-98, but iron men hardly expect it to run that high.

A WELL-TIMED GIFT.

Through the generosity of Capt. E. G. Ashley, of Toledo, the First Battalion of Naval Reserves has been provided with a practice vessel. A meeting of the battalion was held after the regular weekly drill last week, and the committee, consisting of Adjt. Wellbone, Signal Officer Cushing and Commander Betts, reported that a proposition had been made to Mr. Ashley for the purchase of the schooner Brooklyn, and he had presented the battalion with the boat at once. The Brooklyn was built at Clayton, N. Y., in 1864, is 140.2 feet over all, 25.8 beam and 12 feet deep; net tonnage, 303.75. About nine years ago her upper works were rebuilt and two years later were burned and again rebuilt.

RIVER AND HARBOR WORK.

Contracts have been awarded for harbor improvements along the Lake Michigan shore from Petoskey and Michigan City as follows:

Michigan city, St. Joseph, Benton Harbor, South Haven and Saugatuck, to William A. Starkey of Milwaukee, at 13 cents per cubic yard for dredging, and $2 per load for towing.

Holland, Grand Haven, Waukegan and White Lake, to the Green Dredging Co., of Chicago, at the same price.

Pentwater, Ludington, Manistee, Portage Lake, Frankfort and Charlevoix, to the Green Bay Dredging and Pile Driving Co., of Green Bay, at 13½ cents for dredging and $2 a load for towing.

Repairs to piers at Ludington to William Brownrigg of Manistee, $8851.31.

The dredging of Grand River will be done on government account under Capt. Townsend's direction, the bids submitted for the work having been rejected as too high. The dredge is now at Grand Haven, and work will be commenced April 1 at the Grand Haven end.

NEWS AROUND THE LAKES.

DETROIT.

Special Correspondence to the Marine Record.

David Carter, general manager of the D. & C. line, has been quite ill, but is out again, and attending to his work.

The Lake Huron division of the D. & C. line will start running on Friday next, if the Straits open and the lake is fairly clear of ice.

Harbor Master McRae has been transferred to the sanitary squad and Wm. H. O'Neil has been appointed harbor master of Detroit.

The steamer Imperial went down the river on her first trip on Saturday, and on Monday came up from Pelee Island with passengers and freight.

The ferry steamer Victoria, damaged by the City of Detroit, by getting jammed at her dock, has been repaired and is again ready for service. The damages only amounted to some $300.

The steamer Arundel has had very good trade this season so far from Detroit to Port Huron, and the outlook is good for a busy season. General Manager Bielman says his company expect a very brisk trade this year, and there is every favorable indication so far.

In spite of the fact that iron is down, the mine ranges at loggerheads, the railway freight associations trembling and not an ore contract let, the Detroit vessel men are cheerful, and express the opinion that the season is sure to come out all right. "There is no question about the outcome," is the general belief.

Employes of the Northern Steamship Co. have been notified to be at Duluth this week ready to go aboard. No notice of arrival has yet been received by the Northern steamship office here, and it is understood that there is an agreement between line boats to remain in port at Buffalo until April 20. Mr. Hart, agent for the Northern steamship, says he will probably get advices about the 15th of the month.

There has been a rumor current here that Smith, Davis & Co., of Buffalo, for years heavy insurance agents on vessel property, are dropping out, and that some other firm may replace them. No information as to the new firm is obtainable, but it is believed to be either a combination of New York people, or some English company. The local men have been losing business for years, and this spring is seeing greater combinations among great interests and greater sacrifice of small ones than ever. Smith, Davis & Co. deny that they are giving anything up, claiming they are in the marine insurance business to stay.

J. C. Burton, once one of the heaviest marine insurance men in Detroit, has seen the business in its palmiest times, and lived to find this city almost entirely devoid of business of that nature. In fact there is not a living for an agent here any longer, so many men insure their own boats, or represent other companies. In talking over the situation to the Record the captain said: "I once took as high as $45,000 in premiums in one year, but those times are quite gone. Little by little times have changed, and business has altered, until today there is scarcely any marine insurance business in Detroit, and I never expect to see it again. The little fellows have been crowded out until they find themselves without any business, and the great companies are engaged in fighting one another. Marine insurance in Detroit is a thing of the past.

What will insurance rates be this year? asked the Record of A. A. Parker. "There has been a great deal of fluctuation this spring," he answered. "In the first place the English Lloyds decided to come up to four per cent on first-class business because they had some heavy ocean losses, and set their rate. Then Prime, of Chicago, representing other companies, cut in at three per cent, took some business and then rose on his price. In the meantime some other eastern brokers had begun cutting for their firms, to obtain business, and lastly the Lloyds, finding they were not getting business at their rate, cut to three per cent, and are there now. As it is the rate will be rather higher as a whole, than it was expected to be two weeks ago, and lower than last year. The fact of the matter is, that marine insurance is getting badly demoralized, and no one knows just where he stands at present."

BUFFALO.

Special Correspondence to the Marine Record.

Manager Harry Richardson, of the Frank Gilchrist fleet, reports considerable work done on the boats this winter. The Viking has received new floors and the S. C. Hall decks and deck frames. The barge Nellie Mason has been given new deck, rail, stanchions, and other changes and repairs. The Viking and Hall are at Chicago and the Mason is at Alpena.

The schooner British Lion, which has been converted into a lighter, will be ready for any emergency during the coming season. She is intended to be used for general lightering and wrecking purposes. The lighter will be supplied with a boom capable of lifting 15 tons and with hoisting engine, buckets, etc. The British Lion was built in 1883 at Pike Creek, Ont., measuring 85 feet keel, 25 feet beam, and 7 feet depth of hold. The lighter is owned by E. H. Maytham, of this city, and an effort will be made to get her an American register.

Capt. Thomas Wilson has chartered the steamers C. Tower, Jr., and Olympia to the Great Lakes Steamship Co., of which John Gordon is manager. They will trade between Buffalo and Lake Michigan ports. The terms of the charter were not named. Mr. Gordon now has four good steamers in the Globe. J. W. Moore and the Wilson boats. A few coal cargoes are offered for Lake Michigan and the head of Lake Superior at 30 cents, but otherwise the market shows no life. Owners who were forced to carry some ore over from last season are now shaking hands with themselves.

Manager Drake, of the Lackawanna line, has announced the list of vessels that will be engaged in the Lackawanna line this season. Besides the company's regular steamers—the Scranton, Lackawanna, and Russia—the fleet will include the steamers Arthur Orr, Wyoming, Florida, Chili and George J. Gould. Although not officially announced, it is said that the vessels will be commanded as follows, the majority of the captains having been sworn in: Steamer Scranton, Capt. J. H. Green; steamer Lackawanna, Capt. F. Weinheimer; steamer Russia, Capt. J. D. Greene; steamer Chili, Capt. James Gibson; steamer Florida, Capt. H. Murphy; steamer Arthur Orr, Capt. John Massey; steamer G. J. Gould, Capt. W. M. Cottrell; steamer Wyoming, captain uncertain, but James Connors was mentioned

Armour is interested in the huge 2,500,000 bushel steel grain elevator which is to be built here by the Great Northern Railway. In fact, it will not be directly built by the Great Northern Railway, but jointly by Armour and Hill. The Armour people will operate it. Its steel construction and its division into thirty separate bins will obviate any necessity of carrying fire insurance. The construction is by Robinson, who has built all the Armour houses of late. This house will give Armour a great advantage over other shippers via the Buffalo route. The other warehouses are poor affairs compared with anything considered modern in these days. They are all in a pool and have heretofore collected more toll than western shippers have wanted to pay. Consequently there has been considerable dissatisfaction during the past few seasons.

CHICAGO.

Special Correspondence to the Marine Record.

Capt. Howard L. Shaw was in the city Tuesday.

Capt. James W. Millen and A. A. Parker, of Detroit, were in Chicago on Tuesday.

H. W. Cook & Co. chartered the schooner Lake Forest for clipped oats to Port Huron.

The Dunham Towing Co. towed the schooner Cora A. to Armour's A elevator to load wheat.

The United States revenue cutter Calumet has gone to South Chicago to be fitted out and painted.

Capt. F. A. Fick, of the steamer Fedora, stopped off at Chicago on Tuesday on his way to Duluth to join his steamer.

The schooner R. Kanters arrived Saturday evening from Frankfort with slabs, having completed her first round trip this season.

The customs office at Rush street bridge was opened for the coming season's business by Deputy Collector James Nash on April 1st.

The Graham & Morton Transportation Co.'s steamer City of Louisville, Capt. Chas. McIntosh, arrived here Tuesday morning from St. Joseph with nearly 100 passengers and a large quantity of merchandise.

The Holland & Chicago Transportation Co.'s steamer City of Holland, Capt. George W. Pardee, arrived here from Holland Friday morning on her first trip this season. She brought over a number of passengers and considerable merchandise.

Capt. A. L. Fitch, formerly of the firm of C. W. Elphicke & Co., has opened a vessel and insurance agency here at 12 Sherman street, room D. He has chartered the schooners Cora A and Oak Leaf for wheat to Milwaukee at 1 cent per bushel.

The Goodrich Trans. Co.'s steamer Indiana was in Burger & Burger's dry dock at Manitowoc and had her wheel fastened. The company's steamer Sheboygan, went out of Burger's dry dock Saturday afternoon, after receiving a thorough rebuild.

The Graham & Morton Transportation Co. have chartered the steamer Frank Woods to take the place of the steamer City of Duluth to run between St. Joseph and Milwaukee. The steamer City of Duluth will be at once fitted out by her owners, the L. M. & L. S. Trans. Co., to run on her usual route between Chicago and Duluth.

Higgie & Co., vessel agents, chartered the steamer J. D. Marshall for dry maple lumber, Traverse City to Chicago at 12 shillings per M. feet; steamer Colin Campbell for pine lumber, Manistique to Chicago at 10 shillings per M. feet; schooner Elgin for dry maple lumber, East Jordan to Chicago at $1 per M. feet; schooner Oak Leaf for dry hemlock lumber, Manistee to Sandusky at $1.50 per M. feet.

The wooden steamer City of Berlin cleared Wednesday for Port Huron with a cargo of oats. The captain announced that he expected to get away early Thursday morning. The Berlin will be the first of the fleet which has loaded grain during the winter to get away. As a general rule owners are disposed to put off starting to the last day which shippers will allow on cargoes. Engineers of many steamers have not yet gone to work in fitting out.

A. P. Bigelow, general western freight agent of the Baltimore & Ohio at this port, will have full charge of the freight traffic of the new line, while the general manager of the steamer line will be P. H. Fleming, who was the first Chicago agent of the Lehigh Valley line. P. J. Klein will be freight representative at the docks in Milwaukee, and the regular freight agent of the railroad at Milwaukee, C. H. Ross, will continue to look after local business at the up-town office.

Judge Grosscup has directed that an admiralty judgment be entered against the fireboat Yosemite for $6,000. The judgment grew out of the sinking of the propeller City of Berlin in the Chicago River, near the Lake street bridge, in the winter of 1894. The Yosemite was on its way to a fire and the City of Berlin was in winter quarters. The city resisted the libel filed by the Thompson Navigation Co., owners of the boat, on the ground that the city was not responsible for any damages that occurred from the operations of the fire department. Judge Grosscup said that at common law and by several decisions the city is not liable, but under maritime laws he held that the craft itself is always liable for the damages it causes to the value of itself.

Local yachting circles heard with regret of the probable purchase of the Vencedor by New York yachtsmen, and are aggrieved at the thought of losing so attractive a boat. Should the New York deal be closed, a challenge through the Lincoln Park Yacht Club will be at once issued by the Berriman brothers to the Royal Canadian Yacht Club for the championship won by the latter last August on Lake Erie. As ten months' notice is required, there is no prospect of a race this summer, but the challenge will be made at once, so that ample time will be given for the construction of the new boat which is contemplated and for her completion several months before the race takes place. In the event of the Vencedor remaining here, there is little doubt that a new boat will be built, in which case the two will be of much assistance to each other in practice for the big event.

MILWAUKEE.

Special Correspondence to the Marine Record.

This port has advertised for bids on the dredging which is to be done in the rivers this summer. Proposals will be opened by the board of public works Thursday, April 8. It is expected that the new revenue cutter Gresham will draw fifteen feet of water and room is to be made for the government boat north of Buffalo street bridge, where the Johnson lies. As usual, this summer the board of public works expects to maintain 16½ feet of water in the harbor. City Engineer Benzenberg is of the opinion that a foot more of depth should be maintained so that the big boats with deeper draught could come in here.

A complaint was also received from the North Side Coal Co., as follows: "Owing to the fact that the high water of the past week washed out part of the driveway between Humboldt avenue and the dam, a great deal of ground was deposited alongside our dock, so that we only have a few feet of water. We were obliged to pay $300 extra freight last year because large boats could not take a full cargo on account of low draught of water. As navigation will open in a few weeks, we urgently request you to have a strong dredge at our premises as soon as possible. Dredge used last year was not strong enough as the bottom of the river is very hard."

CLEVELAND.

Special Correspondence to the Marine Record.

The new revenue cutter Walter Q. Gresham, docked in the Cleveland Dry Dock for bottom painting.

Capt. J. B. Watts, of Detroit, has been appointed master of the steamer Briton in place of Capt. Stratton, who will take the McWilliams.

The steamer William Edwards was docked this week in the Ship Owners' Dry Dock for repairs to stern bearings, calking and minor repairs.

E. C. Collins, for several years with M. A. Hanna & Co., has accepted a position with Mr. Mills in the office of the Carnegie Steel Co.

The Rube Richards and the May Richards are loaded with coal for Escanaba, the charters having been made at 30 cents. They will remain in port awaiting the opening of the Straits.

The contract between the Treasury Department and the Globe Iron Works Co., for the construction of the two new revenue cutters, is executed. The company is required to give a bond of $65,000 on each vessel.

Capt. F. A. Dority, who has sailed Shenango No. 2 since the ferry line was inaugurated on Lake Erie, has resigned his position and engaged with the F. & P. M. Co., which runs a line of boats between Ludington and Manitowoc.

Chaplain Jones, of the Floating Bethel, is keeping to his usual hustling for the amelioration of the poor and distressed. I ran against him on Tuesday afternoon when he was hurrying off to preach a funeral sermon over the body of an outcast and he seems to keep up to this gait all the time.

The C. & B. Line opened the season on Tuesday night, making a successful trip to Buffalo in nearly the usual time. The City of Buffalo will leave this port Tuesday, Thursday and Saturday, commencing Saturday, May 1, daily trips, except Sunday, will be made, and the steamer State of Ohio will be put on the route. On and after Sunday, May 30, Sunday trips will be included.

The many friends of Mr. John F. Pankhurst, general

manager of the Globe Iron Works Co., will be pleased to learn of his safe return after a lengthy tour on the Pacific slope. It is also a matter of concern to hear that his health has not improved to such an extent as was expected from the trip to California, although a more extended rest will probably restore him to his old vigor. Mr. Pankhurst and wife are staying at the Stillman.

The longshoremen held an open meeting at Orpheus hall on Pearl street last week and a number of new members were taken in. An effort will be made to get the ore handlers to join the organization or form a separate union. The latter plan is considered the best, as a union of all the men employed on the docks would be too large and would be hard to handle. It is expected that the ore handlers will be organized in a few weeks.

Capt. A. B. Davis, in command of the revenue cutter Johnson, at Milwaukee, has been ordered to ship his crew and bring the vessel to this port as soon as possible. There the officers and crew of the Johnson will be transferred to the new cutter Gresham, and the Johnson, will be offered for sale. The opinion of the Treasury officials is that the Johnson will sell to better advantage in Cleveland than she would at any other port on the lakes. She will arrive April 21. The Gresham will go into commission about May 1.

FLOTSAM, JETSAM AND LAGAN.

Samuel and Sidney Neff have purchased the steamer A. E. Shores for $38,000.

The new Anchor Line grain elevator at Erie will have a capacity of 600,000 bushels and cost $100,000.

The passenger steamer Arrow, of the Sandusky and Islands Line, is being fitted out, and will begin making regular trips this week.

Grant Grummond has bought the northern lake steamer Lawrence, and will alternate her with the State of Michigan on the Detroit-Cleveland route.

Navigation will open up on Lake Ontario when the steamer Lakeside from Dalhousie begins her regular season trips. The Welland Canal will probably open about April 19.

The Light House Board has awarded the contract for repairs to the tender Warrington, on service in the Eleventh district, to A. Gilmore & Sons, of Toledo, O., at their bid of $7,324.

The Northern Michigan Transportation Co. steamer Petoskey has received an electric light plant which will supply her with 200 lights, each stateroom being furnished with an electric light.

Soon after the opening of navigation the work of extending the south harbor pier at Manitowoc 500 feet will be commenced and pushed to completion.

Capt. John W. Farwell, who had sailed the lakes in the capacity of master upward of thirty years, died recently at Sandusky, aged 58 years. Deceased was well known in marine circles. He is survived by a widow and three daughters.

The Milwaukee Dry-Dock Co. will be well equipped for repairs to steel vessels shortly after the opening of navigation. The new plant, which is well under way, will be modern in every particular. A large amount of money has been spent in machinery, all of which will soon be ready for work.

The Northwestern Coal Railway Co. has fully determined to make the contemplated extension to its big coal dock on Allouez Bay this spring. The extension will increase the capacity of the dock from 250,000 to 325,000 tons, and its dimensions will be 350x475 feet. It will enable four vessels to discharge cargoes at one time, whereas there is room now for only three.

Articles of association of the Marshall Transportation Co. were filed in the Wayne county clerk's office, recently. The capital stock is $100,000, all paid in, and the 2,000 shares of $50 each are held as follows: David Whitney, Jr., 1,712; David C. Whitney, 285; Fred G. Austin, George Dunlap and Richard Cuson, one share each. The office for the transaction of the business of the corporation will be in the township of Hamtramck.

The Shipmaster's Association intend to petition Congress for the passage of a law allowing masters and pilots to vote at Presidential elections at any port in which their vessel may be on election day. They claim that now they are practically disfranchised and are allowed no vote in the choice of a president, as it is seldom their vessels are in the ports where they are legally entitled to vote under the present law. The proposition is a reasonable one, and ought to become a law.

Commander Charles D. Sigsbee, U. S. N., now on duty as hydrographer of the Bureau of Navigation, will be relieved from that duty when he receives his promotion to the grade of Captain, consequent upon the retirement of Rear Admiral Walker. He will be ordered to command the monitor Monadnock, attached to the Pacific station. Capt. W. S. Schley will succeed to the vacancy in the Light-House Board which will be created by the retirement of Rear Admiral Walker.

George T. Arnold of Mackinac Island will operate a line of five boats this season, which as far as is known at the present time will practically control the passenger and freight traffic between Cheboyagn, Sault Ste. Marie. Naubinway, Rogers City, Mackinaw City and the Les Schneaux Islands. The principal boats of the fleet will be the Ossifrage, Minnie M., Islander and steamer Charles West; the latter boat has been at Manistee this winter, where she was lengthened 35 feet and otherwise improved.

APPOINTMENT OF OFFICERS.

The Gladstone Tug Line, R. P. Mason, Manager. Str. Richard R. Andrus, Charles D. Mason, master; Wesley Rice, engineer. Str. Ojeda, Philos L. Burt, master; John P. Hall, engineer.

Inter lake Co., Pickands, Mather & Co., managers, Cleveland: Steamers, Kearsage, Capt. R. McDowell, Engineer T. Treleaver; Victory, Capt. J. P. Cottrell, Engineer D. A. Black. Schooner Constitution, Capt. Wm. Holly.

Huron Barge Co., Pickands, Mather & Co., managers, Cleveland: Steamer Pathfinder, Capt. W. B. McGregor, Engineer C. A. Heisner; schooner Sagamore, Capt. E. C. Joiner.

Minnesota Steamship Co., Pickands, Mather & Co., managers, Cleveland: Steamers, Maricopa, Capt. G. B. Mallory, Engineer P. J. June; Mariposa, Capt. F. D. Root, Engineer F. A. Smith; Maritana, Capt. C. H. Bassett, Engineer, George Arnold; Masaba, Capt. F. Hoffman, Engineer A. L. Wilcox; Marina, Capt. J. W. Morgan, Engineer W. A. Meddaugh; Matoa, Capt. A. P. Chambers, Engineer W. Tyler; Maruba, Capt. F. J. Crowley, Engineer B. F. McCanna; Mariska, Capt. H. Zealand, Engineer P. Canton; Manola, Capt. H. C. McCallum, Engineer D. M. Foster; schooners, Magna, Capt. John Weeks; Manda, Capt. H. Savage; Martha, Capt. A. J. Talbot; Malta, Capt. H. Culp; Marcia, Capt. E. L. Sawyer.

American Steel Barge Co., Pickands, Mather & Co., agents, Cleveland: Steamers, Colgate Hoyt, Capt. Neil Campbell, Engineer Gilbert Patterson; J. L. Colby, Capt. M. C. Cameron, Engineer William Densmore; E. B. Bartlett, Capt. Charles Grant, Engineer Walter Harsant; A. D. Thomson, Capt. John Parke, Engineer John McLaughlin; Thomas Wilson, Capt. William Hoag, Engineer A. J. Smith; Samuel Mather, Capt. Robert Jones, Engineer Alex McKenzie; J. B. Colgate, Capt. John Dunn, Engineer J. H. Pierce; J. B. Trevor, Capt. M. A. Boyce, Enigneer, George Blauvelt; Frank Rockefeller, Capt. W. H. Kilby, Engineer Irwin Marshall. Barges 101, Capt. ———; 104, Capt. Louis Leonard; 105, Capt. John Sprowell; 107, Capt. Dan McFadyen; 109, Capt. Otis Holdridge; 110, Capt. R. W. Gleason; 111, Capt. G. W. Smith; 115, Capt. Robert Brooks; 116, Capt. George Gallant; 117, Capt. Robert Dunn; 118, Capt. Willard Damon; 126, Capt. Robert Thomson; 127, Capt. George Jorgensen; 129, Capt. Fred W. Greene; 130, Capt. W. H. Dick; 131, Capt. E. Emanuelson; 132, Capt. John Nahrstreet; 133, Capt. Alfred Siljander; 134, Capt. James Burr; 137, Capt. Carl D.. Secord; 201, Capt. Henry Harris, Jr.; 202, Capt. A. G. McLeod.

Langell & Sons, St. Clair, Mich.: Steamer, Oscar T. Flint, Capt. Richard O'Connor, Engineer P. J. Merrill.

A. B. Wolvin, Duluth, Minn.: Steamers Zenith City, Capt. F. P. Houghton; Queen City, Capt. H. L. Mills; Crescent City, Capt. F. C. Rae.

R. T. Gray, Detroit: Steamers John Owen, Capt. E. F. Thorp, Engineer S. L. Phillips; J. Emory Owen, Capt. M. Tinney, Engineer Martin Delaney. Sail—Michigan, Capt. F. J. Cadotte.

W. H. Cook & Co., vesel agents, Chicago: Steamers, Thomas Davidson, Capt. James O. Wood, Engineer W. H. Beals; Walter Vail, Capt. John McAvoy, Engineer Dennis McMillan. Sail: Baltic, Capt. Thomas O'Donnell.

John E. Mills, Port Huron, Mich.: Steamers, Argonaut, Capt. J. H. Warwick; N. Mills, Capt. C. H. Woodford, Engineer B. Hanson; H. J. Kendall, Capt. H. J. Kendall, Engineer E. Steger; T. R. Scott, Capt. Paul Rivard. Sail: Montgomery, Capt. Charles Ludwich; Leader, Capt. G. N. King.

William Dulac, Mt. Clemens, Mich.: Steamers, F. R. Buell, Capt. C. W. Woodgrift, Engineer John Deihl; Canisteo, Capt. W. J. Lynn, Engineer W. P. Boynton; A. Weston, Capt. M. Hyde, Engineer Ed Cottrell; C. A. Street, Capt. A. P. Gallino, Engineer Perry Cossairt; Norwalk, Capt. E. T. Matteson. Sail: J. B. Lozen, Capt. Ed Moore; J. Godfrey, Capt. J. B. Lozen; A. Stewart, Capt. John Destrois; Eleanor, Capt. Frank Dubay; Jennette, Capt. William Dubay; Elvina, Capt. Wesley Brown; Fulton, Capt. Frank Laforge; S. B. Pomeroy, Capt. William Campau.

David Wallace, Lorain, manager of the Wallace fleet, makes the following appointments: Steamers, Vulcan, Capt. Adolph Orldorf, Engineer John McMonagle; Vega, Capt. William Wallace, Engineer Andy McDonald; Robert Wallace, Capt. John Smith, Engineer Eugene Reeder. Schooner David Wallace, Capt. F. Ingram.

Capt. E. C. Maytham has made the following appointments on the Maytham Line tugs for the coming season: Fabian, Capt. Herbert Vroman, Engineer George Freitis; S. W. Gee, Capt. Charles Nash, Engineer John O'Connor; Acme, Capt. Thomas Doyle, Engineer Frank Upper; O. W. Cheney, Capt. John R. Glover, Engineer William Lennox; E. C. Maytham, Capt. John Farrell, Engineer Timothy Higgins; Alpha, Capt. Albert McMinn, Engineer Joseph Morris; Kelderhouse, Capt. H. H. Vroman, Engineer Thomas Higgins.

Improvements aggregating $50,000 will be made on the docks of the Wisconsin Central railroad at Ashland. This work, together with twenty miles of double track on the Duluth, Missabi & Northern, and short extensions of the Ishpeming & Lake Superior will comprise about all the additions to be made this year by the iron ore roads in the lake Superior region.

UNITED STATES SHIPPING.

A masterly speech bristling with pertinent facts regarding United States shipping, was made in Congress this week by Mr. Elkins, a Republican Senator from West Virginia, in favor of a bill charging a duty of ten per cent on all goods shipped to the United States in foreign bottoms.

Relative to the cause or causes of the decline of American shipping, Mr. Elkins said:

1. The abandonment of the policy of protection to American shipping by discriminating duties under treaties with foreign nations, and the substitution, instead of this protection, of no aid or encouragement whatever.

2. Competition of American shipping, without aid of any kind, with foreign shipping, highly protected, aided and subsidized.

3. Opportunities on land during the last 40 years for business enterprise and business investments have been so great, particularly in the West, that but little interest has been taken in industrial pursuits on the seas, especially as they were entirely unprotected and gave no returns.

4. In the absence of any protection or aid to American shipping, it has had to pay heavy taxes at home; higher rates of interest, and higher wages than foreign shipping, which it competes with.

5. The hostile discrimination of British Lloyds Register in inspecting, rating and classifying American ships, obliging them to pay the highest rate of insurance on cargoes, and take the lowest rate of freight and wait the longest in various parts oft he world for charters. Added to this, the war of English insurance companies in the United States against insuring cargoes carried in American-built ships.

6. The demoralization and loss of shipping incident to the civil war. As our laws gave no protection to shipping, it was not rebuilt.

The beneficial results of this policy of protection and discriminating duties in building up our shipping interest will be found in the records of the Treasury Department. From these records, it appears that from 1789 to 1800 the carrying of our imports in American ships increased from 17* to 92 per cent, and of our exports from 30 to 88 per cent; and from 1800 to 1810 this increase was substantially maintained, making the average of our foreign commerce carried in American ships for the period from 1800 to 1810, 91½ per cent of our imports and 87 per cent of our exports.

He reviewed the course of the United States in yielding to British persuasions, and said that in 1828 the "Free Freighting Act" was the "final act of ruinous reciprocity." In 1825 Daniel Webster said, after a time of protection and discriminating duties: "We have a commerce which leaves no sea unexplored; navies which take no law from superior force."

After giving tables showing the increase of American shipping under discriminating duties, and its decrease under maritime reciprocity, Mr. Elkins said, in part:

"All impartial minds must agree, in the face of this showing, that the policy of maritime reciprocity has not only been a failure, but under it American shipping has been well nigh ruined and destroyed in our foreign trade and throughout the world.

"The other conclusions forces itself upon the mind that American shipping, to grow and prosper as an industry, must be protected as it was in the early history of the government."

He also speaks at some length on the shipping legislation since 1830, and also the navigation laws of Great Britain, claiming that for 130 years England discriminated in favor of English ships and built up a great merchant marine. By maritime reciprocity England continued until she controlled 56 per cent of the carrying trade of the world.

Mr. Elkins quoted the Republican national platform in favor of discriminating duties, also the letter of President McKinley accepting the nomination, in which he indorsed the policy. As to the result of this policy, Mr. Elkins said:

"1. It would give us immediately a large share in carrying our foreign commerce, all of our imports and part of our exports, and a share in carrying the commerce of other countries not owning ships.

"2. It would stimulate ship building and establish new ship yards.

"3. Shipbuilding would stimulate other industries of all kinds and give employment to thousands of skilled and other workmen.

"4. It would save to the people of the United States annually more than $100,000,000, now paid to foreign ship owners for carrying our foreign commerce, with the chance in a few years of saving another $100,000,000 by the increase of shipping and the carrying of the world's commerce in American ships.

"5. It would not only build up an increased shipping in the foreign trade, but it would be the means of extending our trade in the foreign markets of the world, so much desired by the people."

Mr. Elkins declared that there was no fear of retaliation under this bill. England could not hurt by discriminating against our ships. She could not place a duty on the food products she bought of us. Our ships would carry millions of dollars and tons from other countries. When we levy duties of 40 and 50 per cent on foreign goods England and other countries do not retaliate.

CONTINUED ON PAGE 9.

AMERICAN HISTORICAL ASSOCIATION.

Agreement of 1817—Reduction of Naval Forces Upon the American Lakes.—By J. M. Callahan, of Johns Hopkins University.

(CONCLUDED.)

This article can only briefly indicate the later history connected with the agreement. In 1838, the British temporarily increased their force on account of threatened invasions of unlawfully organized bands of armed men from the United States. The continuation of this force by the British caused Congress to make an appropriation in 1841 for the building of the Michigan, which was put together at Erie in 1844. For nearly half a century, excepting a brief period in 1864-65 when Confederate attempts from Canada made it necessary to temporarily engage other vessels, this has been the only naval force on the lakes. Since the civil war it appears that there has been no necessity for a greater force. In 1870 when a movement for an invasion of Canada from the United States was reported, and when the revenue cutters on the lakes were laid up, the Michigan was the only public vessel that could be put into active service to stop such acts, but fortunately no invasion occurred. In 1878, when the question of the fisheries was prominent, Secretary of the Navy Thompson thought it would be well to sell this vessel and apply the proceeds to building a new ship for special purposes, but his recommendation was not acted upon.

There has been some doubt as to whether the arrangement has been in existence since 1865, from the fact that in February of that year both houses of Congress ratified a notice for its termination which had been given some time before by President Lincoln. This notice was afterwards withdrawn through the Department of State, but without any action on the part of Congress. In 1878, Mr. Thompson, Secretary of the Navy, said that "whether the arrangement remains in force since 1865 must rest upon the decision of Congress." The State Department has considered it as still in force. Congress would probably do the same In 1892 there were very few members of Congress who would have voted for its abrogation.

Several points may here be considered in regard to the interpretation of the arrangement which secured this sudden decline and long-continued insignificance in naval armaments:

1. At different times questions have arisen in the minds of different persons as to whether it applies to all the Great Lakes; such questions have been asked of different Departments in regard to each of the lakes—Erie, Michigan, and Superior. It has not only been treated as applying to all these lakes, but would probably also be interpreted as applicable to the streams which flow into the various lakes included in the meaning of it.

2. The arrangement makes no provision in regard to revenue vessels, but both parties seem to consider that these are not a part of the Navy and are not included under the limitations of the agreement. The original intention of President Madison, however, was to reduce cutters to the "minimum of size and force, if allowed at all."

3. By the construction placed by the Navy Department upon the clause "no other vessels of war shall be there built or armed," the bids upon gunboats by lake builders have been rejected. They could have been accepted under the liberal interpretation that a hull would not be a war vessel until after she had received her armor and guns, but it has not been thought best to give this interpretation. It appears probable that the Navy Department may have been guided in its action chiefly by the fact that the vessels after being built would have to pass through a long stretch of exclusively Canadian waters in order to get them to the sea. Permission has been readily obtained at various times to take vessels through these waters, but it has probably been considered a bad policy to ask such a favor of a neighboring nation.

The sentiment seems almost unanimous that from the standpoint of international relations, the effect of the agreement has been entirely wholesome. The wisdom of the measure was apparent, and bore fruits from the first. The "era of good feeling" had now taken the place of quarrels, oppression, and misunderstanding; and peace began to exist in fact, as well as in theory. The prompt orders sent out by Castlereagh to the naval officers on the lakes, suspension of constructing vessels in that quarter, and finally, the agreement to limit the force of each side on the lakes, increased the confidence of the Americans in the intentions of their British kin. It was a fortunate circumstance that the heads of affairs in both countries were not men with stronger prejudices than they had reason.

But time has proven that with the safeguards which the spirit of the fathers provided there has been little danger from that source. That the fathers in this respect "builded even better than they knew" is seen from the fact that the vast extent of commerce which floats upon the bosom of the lakes has been, except at two brief intervals, "as fully protected from violence and wrong as if millions of dollars were spent upon naval armaments upon the water and forts upon the shores."

It is generally conceded that the arrangement has been advantageous in the past, and that the principle of it, at least, should continue—though it might be modified to meet modern conditions, especially as to the size of vessels in case they are actually needed upon the lakes. Any attempt to change, however, might meet with serious complications.

Notwithstanding the immediate advantage which England would have through the Welland Canal in case of possible future hostilities, it has long been conceded in Parliament that England can not compete with the United States in constructing gunboats upon the lakes.

In the long peace that has existed the tendency has been for the two countries to rely upon the good faith of each other. After the precautionary measures on the lakes in 1865, the United States Government expressed its desire to return to that same "full reliance," and there appears no reason to believe that either party has violated this spirit with reference to the lake defenses.

BIDS ON HARBOR WORK.

Abstract of bids opened March 31, 1897, by Major Clinton B. Sears, Corps of Engineers, U. S. A., at Duluth, Minn., for building pier extension at Portage Lake Ship Canals, Mich.

Amount proposed to be expended on this work and for which contracts have been authorized, about $120,000.00.

No.	NAME AND ADDRESS OF BIDDER.	2,800 feet Pier Extension. (more or less).		If small stones are used instead of brush mattress.	
		Superstructure to be of Norway Pine.	Superstructure to be of White Pine.	Add to price bid.	Deduct from price bid.
		Per lineal foot.		Per lineal foot.	
1	Samuel Meniece, Duluth, Minn.	$ 55.50	$ 58.50	.....	$1.00
2	Porter Bros., Duluth, Minn.	49.14	49.47	.....	.40
3	King & Steele, Duluth, Minn.	52.00	.....	.....	.....
4	Powell & Mitchell, Marquette, Mich*.	39.10	40.00	.....	.40
5	Winston Bros., Minneapolis, Minn	52.40	54.80	.70	.70
6	Eslow & Munroe, Charlevoix, Mich.	50.39	51.19	.....	.50
7	James Pryor, Houghton, Mich.	44.00	44.92	.....	.49
8	Chicago Star Construction and Dredging Co., Chicago, Ill.	61.05	62.05	.....	1.00
9	Heldmaier & Neu, Chicago, Ill.	46.34	47.07	.....	.....
10	McArthur Bros. Co., Chicago, Ill.	65.79	66.79	.....	2.00
11	Lipsett & Gregg, Sault Ste Marie, Mich.	51.25	52.25	.....	.....
12	James Sullivan and Wm. W. Lavanway, Duluth, Minn.	4847.61	4998.62	.....	.51
13	C. E. Mitchell & Co., Ludington, Mich.	66.50	66.50	.....	.....
14	Wm. McCurdy, Houghton, Mich. and Alex. McCurdy, Duluth, Minn.	50.70	52.64	.....	.72
15	Green & Anderson, Green Bay, Wis	56.09	56.96	.50	.....
16	James A. Burke, West Superior, Wis.	51.736	51.886	.....	.80
17	Butler-Ryan Co., St. Paul, Minn.	56.25	57.75	.....	.....
18	P. McDonnell, Duluth, Minn.	46.10	47.10	.....	.....
19	A. & D. Sang, Duluth, Minn.	59.85	62.15	.....	.75

CLINTON B. SEARS,
Major, Corps of Engineers, U. S. A.

TO REDUCE ORE HANDLING CHARGES.

The proposition of the Lake Carriers' Association to reduce ore unloading and ore trimming charges is being submitted to dock managers. The resolution proposing this action which received the endorsement of the vessel-owners was sent out this week. The lake carriers are not in a hurry to carry out the work which they have undertaken, as it will be useless to force matters. Unloading charges are now 16 cents per ton and trimming charges 2½ cents. The vesselmen in their resolution advocated a reduction to 12 cents and 2 cents respectively. The question rests with the dock managers, who are expected to act favorably regarding the request of vessel owners.

EXTRACT FROM A REPORT ON COMMERCE AND INDUSTRIES OF JAPAN.

By Robert P. Porter.

Japan has taken practical steps for the development of her merchant marine, and in this the United States may find a useful lesson. Two bills passed the Japanese Imperiol Diet in 1896 without a single dissenting voice, measures of vast prospective importance in extending the commercial importance of Japan.

The first provides that, under certain conditions as to right of requisition of the Government, carriage of mails, training of apprentices, etc., a subsidy shall be given for the space of five years, from the date of construction, to every iron steamship of over 700 tons burden at the following rates: Twenty-five cents per ton for every 1,000 miles run at a maximum speed of ten knots; an addition of ten per cent. to be made for every 500 tons increased displacement over 1,000 tons and up to 6,000 tons; and a further addition of twenty per cent. for each additional knot in speed up to seventeen knots; after the lapse of five years a continuing annual reduction of five per cent. in these amounts is to be made.

The second provides that a subsidy of $12 per ton shall be granted to every Japanese subject building in Japan an iron or steel steamship of 700 tons and over but under 1,000, and of $20, per ton for one of 1,000 tons and over, with an additional $5 for each unit of horse-power. Both hull and engines must be built under the supervision of the Department of Communications, and no foreign material is to be employed unless specified by that department.

Both these measures came into operation October 1st, 1896, and are to continue in force for fifteen years.

OBITUARY.

(Capt. Harbottle.)

Capt. James Harbottle, for the past four years in command of the Niagara Line steamer Chicora, died last Thursday morning of gastric catarrh of the stomach. He was 38 years old, and prior to taking command of the Chicora, was for years well known on the upper lakes and filled various positions of responsibility. He was a son of the late Capt. Harbottle, for many years inspector of hulls at Toronto, Ont.

(Capt. Little.)

Capt. Albert Little, one of the best known and oldest residents of Tonawanda, died at his home on Grove street last week, of Bright's disease. Capt. Little was born at Wilson, N. Y., and had been a resident of Tonawanda for 40 years. He was formerly a fresh and salt water sailor, but had been engaged with the Cataract Construction Co. for a number of years, and was more or less prominently identified with the work of constructing the tunnel and wheel pits for the Niagara Falls Power Co. He was also at one time a ship builder, and was widely and favorably known among the people of the Tonawandas. Capt. Little was a member of Tonawanda Lodge No. 247, F. & A. M., and the Masonic fraternity took charge of his funeral. He leaves two daughters, one who married Edward Hardleben and Miss Maud Little.

NOT NON-SUITED.

Detroit, Mich.

Editor the Marine Record:

Your report, in your issue of April 1st, "In Litigation," with reference to the Ogdensburg Line vs. B. W. Blanchard, litigation, is wrong and misleading. Some one, who seems to have "been born that way," who evidently is familiar with the subject matter, don't tell the truth about it.

The case referred to was regularly tried before the referee, who heard all the testimony and the arguments of counsel, and took the case under advisement.

Louis Hasbrouck, of Ogdensburg, and H. C. Wisner of Detroit, represented the Ogdensburg Line. Harvey D. Goulder, of Cleveland, the B. W. Blanchard.

When the referee was about to file his report, but before he had filed it, Parker & Millen, owners of the Blanchard, claimed the right to withdraw from the reference, under a rule of practice established by the statute of New York for the state courts. The referee, however, proceeded with the case and reported in favor of the Ogdensburg Line a judgment of about $12,000.

Parker & Millen appealed to the U. S. Court of Appeals, which held that the state statute applied, and the withdrawal took the case from the referee, and sent it back to the lower court for trial. H. C. WISNER.

THE BOYER SECTIONAL TUBE BOILER.

(Illustrated.)

The competition for speed in vessels still goes on. Last year a boat was launched that created a sensation by making an exceedingly fast run. Shortly afterwards another boat made her debut and attained even a higher rate of speed, and so it goes. First one and then another, taxing the engine builder's ingenuity to its utmost, who in turn look to the makers of boilers for assistance. A boiler that fails to supply the requisite amount of steam to keep up with the engines working as the engines of to-day are required to work, is practically useless.

Excepting perhaps the steam engine, no mechanical device has been so materially and steadily improved, as the steam boiler. The improvements of boilers have been along the lines of safety, economy, adaptation for carrying high pressures, rapid generation of steam and constancy of pressure under varying demands. Having in mind these facts and determining to combine these in a boiler capable of driving an engine 1,000 revolutions, L. Boyer's Sons, of New York, produced their Patent Sectional Water Tube Boiler, and built the yacht "Rex" to further demonstrate the fact that this boiler would do all that was claimed for it. That it more than fulfilled their expectations is attested by the performance of the Rex on the lakes in 1893, when she made the remarkable run from Menominee, Mich., to Sturgeon Bay, a distance of twenty-two miles, in forty-five minutes, and that in rough water. Again at Fredericksburg, Va., in the year 1895, the Rex logged twenty miles an hour for two hours, with boiler door wide open, and on the Potomac River, Washington, D. C., she ran a mile in two minutes and five seconds.

With these facts before them the Boyers feel that they are safe in claiming that the Boyer Patent Sectional Water Tube Boiler is simple in construction, perfect in workmanship, durable in use, and not liable to require early repairs. All parts are readily accessible for cleaning and repairs. A constant and thorough circulation of water throughout the boiler, so as to maintain all parts at one temperature. A rapid maker of steam (steam having been generated from cold water in 15 minutes). Water spaces divided into sections, so arranged that should any section give out, no general explosion can occur, and the defective effects will be confined to the simple escape of the contents; with large and free passages between the different sections to equalize the water line and pressure in all.

There is another very important point that has been given strict attention by the Boyers in the construction of their boiler, and that is, that they have removed all the joints from the fire. This point is one that appeals to the thinking mind immediately and needs no explanation.

In conclusion it might be said, that the Boyer Patent Sectional Water Tube Boiler is each and every one tested before leaving the workshop and subjected to a hydrostatic pressure of 600 pounds.

OUR MERCHANT MARINE.

Every statesman in the country agrees with every other statesman that the shipping trade of the United States ought to be built up again. They all concur that it is a shame that the American flag has practically disappeared from the seas. Unless seen floating from the masthead of some American man-of-war it is a rare spectacle in foreign ports. It was different once. The time was when the American merchant marine outnumbered even Great Britain's, when our clipper ships were seen everywhere, and when American exports and imports were carried in American bottoms. It is the saddest kind of commentary upon our shipping laws to think that the marvelous progress the world has made in shipbuilding, and with the constantly increasing evidence that the United States can beat the world in the construction of the fastest of vessels of modern kind, this country should stand at the foot of the list in respect of the size of its merchant marine.—Washington Times.

EASTERN FREIGHT REPORT.

The eastern freight report furnished the Record by Messrs. Funch, Edye & Co., New York, is as follows:

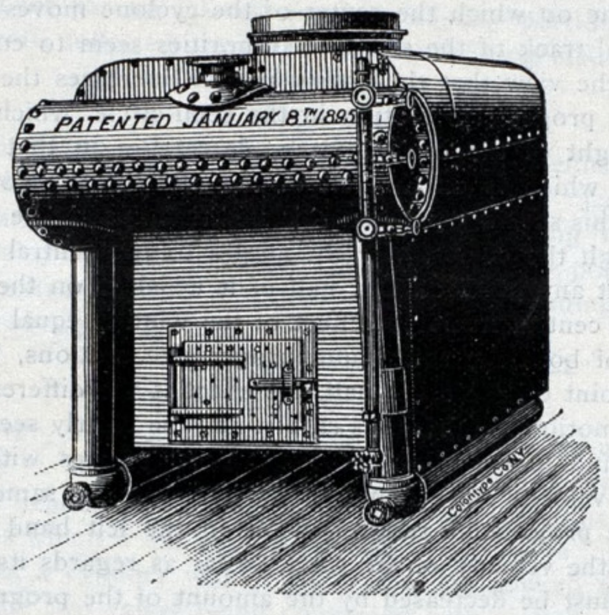
The position of our freight market for steamers has virtually undergone no change since our last report. Fresh engagements for cargo loads appear to be out of the question, and the same condition obtains in respect to parcel lots, the offerings of which is slight and at steadily declining figures. At the moment, therefore, more than ever, business in grain is restricted to the carrying out of old contracts, and rates are entirely subject to the momentary requirement of size, position and owners' views as to ports of discharge. A further boat having been taken for Shanghai on the London market at 33 cents, shippers of case oil appear inclined to hold back for lower terms. The enquiry for berth tonnage to the Far East has been partially met by some boats taken on time, but there is still some demand to move rails and railroad outfit, large contracts for which appear to have been placed in this market. There is some further business doing from the timber ports, but orders thence are gradually being filled at about former figures. Deal freights from fixtures thence latterly.

Business for sailing vessels has been rather quiet during the past week, the supply of tonnage, as well as offerings of same, being limited, and we have no particular change to report. Freights for case oil to the Far East form the only exception, as some fixtures show a slight decline, in consequence of more liberal offerings for this branch at the moment.

ENTITLED TO REGISTER.

A correspondent inquires: "In what cases does the law of the United States permit a foreign vessel to be brought under the American flag?"

These classes of foreign-built vessels are entitled to American registry: (1) Vessels which may be captured in war by citizens of the United States, and lawfully condemned as prize, or which may be adjudged to be forfeited for a breach of the laws of the United States, being



BOYER SECTIONAL WATER TUBE BOILER.

wholly owned by citizens; any foreign-built vessel which shall be wrecked in the United States, and shall be purchased and repaired by a citizen of the United States, upon satisfactory proof that the repairs put upon such vessel are equal to three-fourths of the cost of the vessel when so repaired. The Act of 1892, under which the foreign-built vessels of the American Line were admitted to registry, is general in its terms, but it was made to meet a special case, and very few vessels, if any, will ever be admitted to registry under it except those for which it was especially intended.—Ed.

FITTING OUT AT THE HEAD OF THE LAKES.

All of the vessels at the head of the lakes are fitting out for the season's business. The yards of the American Steel Barge Co. at West Superior, are a scene of activity. They are fitting out the steamers Joseph L. Colby and E. B. Bartlett of the whaleback fleet and the steamer Matoa of the Minnesota Steamship Co.'s fleet, this vessel having wintered in the drydock. Besides these, work at the yards will soon be commenced on fitting out the steamer Christopher Columbus, which will go on the Milwaukee-Chicago excursion run in charge of Capt. Robert Smith. The steel barge Constitution, which is being built for the Inter-Lake Transit Co., of Cleveland, will probably be launched on Saturday, April 17. The plating is now nearly on and the decks all laid. The vessel can be launched as soon as the ice breaks up and efforts are being made to have her in commission by the first week in May. Soon after the launch of the Constitution will follow the re-launching of the 201 and 202, the ocean whaleback barges which were lengthened during the winter months until they are now "fullsized" barges.

CONDENSED STATEMENT OF LAKE COMMERCE AT HEAD OF THE LAKES,

DULUTH AND SUPERIOR DURING NAVIGATION SEASONS OF 1895-96.

1895.			
Number vessels arriving	5,505	Registered Tonnage	5,665,752
" " departing	5,481	" "	5,778,520
Total arrivals and depar.	10,986	Total Registered Ton'ge	11,444,272
Receipts, net tons	2,035,465	Valuation	$27,443,512
Shipments "	4,289,886	"	67,556,488
Total	6,325,351	Total valuation	$95,000,000
1896.			
Number vessels arriving	5,527	Registered tonnage	6,626,101
" " departing	5,421	" "	6,726,967
Total arrivals and depar.	10,948	Total Reg. Tonnage	13,353,068
Receipts, net tons	2,407,880½	Valuation	$27,717,561
Shipments "	5,478,953	"	83,959,339
Total, net tons	7,886,833½	Total valuation	$111,676,900

INCREASE OF VALUATION OF LAKE COMMERCE DURING 1896, AS COMPARED WITH 1895, $16,676,900.

TOTALS FOR SUPERIOR, 1896.

	Net Tons.	Valuation.
Receipts	1,524,646½	$11,556,857
Shipments	1,470,421	40,542,545
Receipts and shipments	2,995,067½	$52,099,402
Passengers arriving		1,974
" departing		2,042
Passengers arriving and departing		4,016

TOTALS FOR DULUTH, 1896.

	Net Tons.	Valuation.
Receipts	883,234	$16,160,704
Shipments	4,008,532	43,416,794
Receipts and Shipments	4,891,766	$59,577,498
Passengers arriving		23,176
" departing		22,498
Passengers arriving and departing		45,674

VESSELS RECORDED AT SUPERIOR, 1896.

ENTERING:	
Steam vessels	1,57[illegible]
Sail and other vessels	22[illegible]
Total vessels	1,790
Total registered tonnage	2,330,117
DEPARTING:	
Steam vessels	1,512
Sail and other vessels	223
Total vessels	1,735
Total registered tonnage	2,354,140
Total entries and departures	3,525
Total registered tonnage	4,684,257
Average tonnage exclusive of tugs	1,446

VESSELS RECORDED AT DULUTH CANAL, 1896.

ENTERING:	
Steam vessels	3,033
Sail and other vessels	704
Total vessels	3,737
Total registered tonnage	4,295,984
DEPARTING:	
Steam vessels	2,972
Sail and other vessels	714
Total vessels	3,686
Total registered tonnage	4,372,827
Total entries and departures	7,423
Total registered tonnage	8,668,811
Average tonnage exclusive of tugs	1,257

TABLE OF DISTANCES

AT WHICH OBJECTS CAN BE SEEN ACCORDING TO THEIR RESPECTIVE ELEVATIONS AND THE ELEVATION OF THE EYE OF THE OBSERVER.

Heights in Feet.	Distances, in Statute or English miles.	Distances, in Geographic or Nautical miles.	Heights in Feet.	Distances, in Statute or English miles.	Distances, in Geographic or Nautical miles.
5	2.958	2.565	110	13.874	12.03
10	4.184	3.628	120	14.490	12.56
15	5.123	4.443	130	15.083	13.08
20	5.916	5.130	140	15.652	13.57
25	6.614	5.736	150	16.201	14.05
30	7.245	6.283	200	18.708	16.22
35	7.826	6.787	250	20.916	18.14
40	8 366	7.255	300	22.912	19.87
45	8.874	7.696	350	24.748	21.46
50	9.354	8.112	400	26.457	22.94
55	9.811	8.509	450	28.062	24.33
60	10.246	8.886	500	29.580	25.65
65	10.665	9.249	550	31.024	26.90
70	11.067	9.598	600	32.403	28.10
75	11.456	9.935	650	33.726	29.25
80	11.832	10.26	700	35.000	30.28
85	12.196	10.57	800	37.416	32.45
90	12.549	10.88	900	39.836	34.54
95	12.893	11.18	1,000	41.833	36.28
100	13.228	11.47			

EXAMPLE: A tower 120 feet high will be visible, to an observer whose eye is elevated 15 feet above the water, 17 nautical miles; thus from the table:

15 feet elevation; distance visible, 4.443 nautical miles.
120 " " " " 12.56 " "
17.003

The steamer City of Nicollet is being rebuilt at Sandusky, and will be ready to go into commission in about two weeks. An application, it is understood, will be made to the commissioner of navigation in the near future for permission to change her name.

MARINE RECORD

ESTABLISHED 1878.

Published Every Thursday by

THE MARINE RECORD PUBLISHING CO.,

Incorporated.

GEO. L. SMITH, President.

C. E. RUSKIN, - - - - Manager.
CAPT. JOHN SWAINSON, - - - Editor.
THOS. WILLIAMS, Chicago, - - Associate.

CLEVELAND, Western Reserve Building. CHICAGO. Royal Insurance Building.

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Western Reserve Building, Cleveland, Ohio.

Entered at Cleveland Postoffice as second-class mail matter.

CLEVELAND, O., APRIL 8, 1897.

Capt. George A. Zinn, Corps of Engineers, U. S. A., stationed at Milwaukee, advertises for proposals this week for dredging at Green Bay harbor, in Fox River, below De Pere, 50,000 cubic yards is to be dredged.

The Hydrographic Office, Navy Department, Washington, D. C., are about to issue a chart showing the forms or types of clouds according to the latest nomenclature. A book containing similar data is also expected from the press at an early date.

The Northern Steamship Co. announce from the office of the vice president at Duluth, that Mr. I. M. Bortle is appointed general passenger agent of the company with headquarters at Buffalo. The order went into effect April 1st, signed by Mr. Farrington.

Reports from a score of lake ports within the past forty-eight hours show that the lakes with the exception of Superior and the Straits of Mackinac are practically open for navigation, whenever vessels like to force the passage.

The Dixon Graphite Co., of Jersey City, N. J., have issued a blotter for April showing the universal Easter lily. We do not see that the Dixon's Silica graphic paint is demonstrated in their new blotter, but it is evident that the Jos. Dixon Crucible Co. desire to keep to the front in their April publication.

The hydrographic office issues of notices to mariners and the charts published are of direct interest to marine men. This branch service on the lakes is of more importance than anything which has occurred in lake navigation for several years past and should therefore be upheld from every standpoint of lake sailing and industries.

We may be pardoned for calling attention to a slight typographical error in the report of proceedings of the national board of steam navigation held in St. Louis. On page 26 it ruled that "Steamers of 200 tons and over 100 tons shall have on such bulkhead not less than ten feet abaft the stern." Of course mistakes will happen even in the best regulated families and even with such a technical and highly skilled management as the national board has a letter or two is liable to become misplaced, but they would be hard put to it, if they insisted on carrying out to the letter the New York resolutions of March 17, 1896, when Mr. D. M. Munger was secretary pro tem.

ROTATION OF WINDS.

A study of the law of storms should be useful, and interesting to many of our readers, and we herewith give a brief sketch, or synopsis of the marked and well-known characteristics of the cyclonic storm, referring to Piddington or Dove's law of the gyration of winds or any other standard work, to any one requiring a more elaborate explanation. While it is generally admitted by all authorities that moderate gales of wind travel over and expend their fury within a circle of 700 miles, such cannot always be said of the cyclone or hurricane, and in this connection we may say that the name changes only on account of the geographical position as the typhoon of the China seas might appropriately be called a pampero if blowing on the east coast of South America, and the cyclone of the Bay of Bengal, or Indian Ocean, be named a hurricane in the Atlantic, while their characteristics are each and all essentially cyclonic. Hence, we may infer that the word cyclone covers the various terms in use over the globe. While admitting that there are local features to be considered marking the geographical location of the storm, yet the direction, velocity, etc., are similar. The cyclone has a double motion, rotary, and progressive, and moves in the northern hemisphere from right to left, or in a direction against the hands of a clock.

In the southern hemisphere the opposite movement is according to the law of storms, and the rotary motion is from left to right as a person would read, or as the hands of a clock revolve. The center of a cyclone bears about eight points from the direction of the wind, and to the right in the northern hemisphere, but to the left in the southern hemisphere, while the line of progress, that is, the line on which the center of the cyclone moves is the central track of the storm. Authorities seem to coincide with the view that the rotary motion increases the effect of the progressive motion in the semi-circle, which is to the right of the central track, decreasing in that semi-circle which is on the left of the same line. To illustrate this seeming paradox it is said that if a line be drawn through the center, at right angles to the central track, then at any point on that half of it which is on the right of the central track, the effect of the wind is equal to the sum of both the rotary and progressive motions, but at any point on the other half, the effect is the difference of their motions, and in this case it may be clearly seen that the wind in the right hand semicircle rotates with and gains velocity on account of its pursuing the same path as the progressive motion, while in the left hand semicircle the velocity of the wind, so far as regards its rotation must be decreased by the amount of the progressive force as the path is opposite to that of the axis, or progressive motion. An observer wishing to know on which side of the central track he is located, may note the direction of the wind at short intervals, then if the wind veers to the right (the observer being supposed to face the wind), he is in the right hand semicircle of the cyclone, but if it veers to the left, he is situated somewhere in the left hand semicircle of the storm. Therefore in heaving a vessel to, she ought to lay on the starboard tack when in the right hand semicircle of the storm, and on the port tack when in the left hand semicircle, while if the observer is on the central track, the wind will blow directly and constantly from one-quarter of the compass during half of the duration of the storm, accompanied by hard squalls and a falling barometer. As the center of the cyclone approaches the place of the observer, several effects may be noted among which may be mentioned a rapidly falling barometer, sky dark and threatening, wind increasing in weight, and squalls more frequent, but as the center recedes from the place of the observer, the barometer rises steadily, and the weather gradually moderates.

TONNAGE.

The word ton seems to have been derived more from the measure of liquid capacity than the unit of ship measurement, the word originally indicating a wooden vessel of the shape of a cask, used for the storage and transport of wine, and it is more than probable that the tun became the unit of measure for the ship from the fact that from an early period it was the custom of the British Government to charge import duties and charges on wine were levied upon it. The Nautical Magazine which Mr. Hall, who quotes original documents of an early date in connection with the revenues in England, says: "Out of every cargo of ten tuns, or above ten tuns and under twenty tuns, one tun to be purchased by the king at his own price. Above twenty tuns two tuns to be so purveyed, and no more, irrespective of the bulk of the cargo. A further regulation prescribing that one tun should be taken from before the mast, and one behind it, points to the fact that the vessels of those times had but one mast and were not decked amidships, hence the best practical measure of the size of ship would be the number of tun casks which would go into her hold. So far the word tonnage had no connection with the size of the ship, but a certain connection between tunnage imports and shipping is shown by the fact that sometimes when a subsidy of tunnage was voted to the king it was specified that it was to be applied to the sea defenses of the kingdom. As early as 1379 the French exacted from the British tonnage dues, and Richard II. ordered duties to be levied upon vessels outward and homeward and that this was upon vessels and not upon cargoes is proved by the fact that fishing vessels were to pay a certain sum while employed in fishing.

However, as trade and commerce increased a definite mode of measuring had necessarily to be established, and several methods were devised and practiced at various times. A shipwright and mariner named William Sutherland published a work in 1711 in which is stated two good old ways for finding the tonnage of a ship; first to multiply the length of the keel by the length of the midship beam, and also by one-half of the length of the beam, and to divide by ninety-four; the second rule is to take the length of the keel, breadth of the beam, and depth of the hold, multiplying them together and dividing by ninety-five to give the true burden for merchant ships, a method which at the present day and according to the models which are now put afloat would not only be erroneous, but ruinous to ship owners. Moorson, Bushnell and others have determined a system in the past equally faulty. Sterling's rule for finding the contents of a curved body seems the more correct, and forms the basis of all the present rules for tonnage and displacement.

LAKE LEVELS.

While most eminent authorities concur in the belief that precipitation alone rules the level of the lakes, there are people who believe that submarine springs and possibly submarine rivers having a large outflow are accountable for the uniform and permanent depth found over the center portions of the lakes, besides, the fact that so many boulders, and shoal spots are now being located by navigators, might lend a color to the submarine river theory. A strong under current such as would be forced from the boundary of a submarine river wherever it approached the surface of the bottom, would readily account for the obstructions and shoal places being found in the many channels and fairways, which, up to the present time, were considered well known. Even admitting that some of the dangers to navigation had been previously known, but not marked, there is ample evidence to show that a hidden power is at work gradually causing more or less alteration of the bottom in several localities. Nor can the theory of ground ice making all of these changes be given too much credence.

It may be advanced in argument that the larger tonnage now being used on these waters, look closer to the bottom than the tonnage of twenty, or even ten years ago had any necessity to do, but this does not entirely account for the discovery of the boulders and shoals recently pointed out and marked by the government departments.

The official number was awarded by the bureau of navigation, Treasury Department, Washington, last week, to the sailing vessel Carrington, 3,181 gross and 2,861 net tons. The Carrington was built by the Chicago Ship Building Co., and hails from that port. With the exception of two canal boats of 135 tons built at Tonawanda and a 17-ton craft built and owned in Detroit, the foregoing is all of the lake tonnage registered during the week ending March 27, 1897.

The thanks of the Record are due to Major Clinton B. Sears, Corps of Engineers, U. S. A., for a series of blue prints containing inclusive statistics of lake commerce at Duluth and Superior for the season of 1896, comparison also being made with the commerce of the previous season.

Imports and exports for each month and the valuation of each product or commodity is also given. In seeking an appropriation from the federal government it would be well if all the principal lake ports could show in so plain, pointed and inclusive a manner the value and volume of their commerce and the work of Major Sears is to be highly commended, although carried out in compliance with an act of Congress approved Feb. 21, 1891. Hitherto there has been a general lax manner in arriving at figures relative to the total commerce of the lakes and it would no doubt be to the ultimate advantage of the waterways of the Duluth act was made compulsory at all ports.

Mr. Burrell is now all in shape to commence river service at Detroit and will transact any business entrusted to him. He will report vessel passages, deliver orders, carry passengers or parcels to or from passing vessels and generally try to merit the good will of masters, owners, engineers and in fact, all of the sailing fraternity with whom he may be brought into contact.

Among the new advertisements appearing in this issue of the Record may be found that of Messrs. Pauling & Harnischfeger, Milwaukee. This well and favorably-known firm have just completed successful and important improvements in their steam steering gear and now place on the market a powerful, compact, combined steam and hand steering engine, which is sure to meet with favor from vesselmen.

We have received this week No. 1, Vol. 1, of a 40-page New York monthly titled "Marine Engineering," devoted to vessel construction, propulsion and allied interests issued by the Marine Publishing Co., World Building, New York. There is no doubt a large field of usefulness and patronage for the new journal and the contents of the first issue warrants us in saying that "Marine Engineering" is worthy of the best support of advertisers and subscribers. The Record welcomes the new journal to its exchange table and hopes that favorable financial breezes may waft it along to the shores of prosperity in all that the world implies.

MERCANTILE MARINE SERVICE.

A meeting of representatives of the shipping interests was held at Washington on Wednesday in the room of the senate committee on commerce. Among those present were C. A. Griscom, W. P. Clyde, T. W. Hyde, A. R. Smith, C. H. Cramp, Samuel S. Sewall, H. P. Booth, E. Bliss, Aaron Vanderbilt, D. C. Mink, F. J. Firth, C. H. Keep, ex-Senator G. F. Edmunds and Senators Frye, Elkins, Hanna and Perkins. The meeting was held for the purpose of promoting legislation in the interests of the United States mercantile marine.

Several addresses were made during the day by those in attendance, one of the most important being that of C. H. Cramp, the shipbuilder. Mr. Cramp said the enormous revenue represented by the freight and passenger tolls on our commerce and travel is constantly drained out of this country into British, German and French pockets, while the vast industrial increment represnted by the necessary ship building inures almost wholly to Great Britain. He held this to be the principal cause of the existing financial condition of the United States and said that until means were taken to keep a part of the $300,000,000 annually absorbed by foreign ship owners no good times could come. English officials abroad, he said, from ministers and consuls down, industriously reproduce in the newspapers of Japan, China, Chili, Argentine and Brazil the misstatements of the English press about American vessels. In conclusion he suggested the following new classification for bounties to American shipping: Not less than 10,000 tons and twenty-two knots, $6 per mile; not less than 8,000 tons and twenty knots, $5 per mile; not less than 6,000 tons and eighteen knots, $4; not less than 5,000 tons and sixteen knots, $3 per mile. All other iron or steel steamers not less than fourteen knots, $1.50 per mile.

Ex-Senator Edmunds, who was present as legal adviser, took a prominent part in the proceedings of the day, his opinion being called for at various times. He was asked, among other things, if the discriminating duties proposed in the Elkins bill would not be in violation of treaties with many foreign powers, and replied that they would be. He said, however, that the treaties could be abrogated by law, by the passage of a joint resolution, giving a year's notice to the government with which the treaties had been made.

After a general discussion a committee was appointed to consider the various questions and to unite, if possible, upon a policy to recommend to the government as a remedy for the existing situation.

A FAIR WARNING.

In connection with the recent legislation for seamen, collectors of customs have been sent a circular from the secretary of the treasury drawing their attention to the fact that "Every master or other officer of an American vessel within the admiralty and maritime jurisdiction of the United States, who, without justifiable cause, beats, wounds or imprisons any of the crew of such vessel or withholds from them suitable food and nourishment, or inflicts upon them any cruel and inhuman punishment, shall be punished by a fine of not more than $1,000 or by imprisonment not more than five years, or by both."

NO HOSPITAL FOR THE "SOO".

It appears that the project to build a marine hospital at Sault Ste. Marie with the $68,000 held by the state of Michigan and derived from tolls on the old "Soo" canal, has gone a glimmering. A bill asking for the amount to be turned over to the federal government for the above purpose was introduced in the state legislature and was a few days ago turned down in the Senate. It is now proposed to place this sum to the credit of the general state fund as it has been determined that the federal government has no interest or claim in any portion of the old tolls collected previous to the canal being made free.

A LARGE CARGO.

The Hamburg-American cargo steamship Pennsylvania, which arrived at New York Sunday, brought 13,200 tons of cargo. She drew 29 feet of water crossing the bar, probably as heavy a draught as ever entered the port. The Pennsylvania has a miscellaneous cargo, including 60,000 bags of sugar.

DEEP SEA SOUNDINGS.

A very ingenious and simple contrivance is used to bring to the surface samples of sea water taken from great depths, and unmixed with water from the other depths which it has passed through in reeling in. It consists of a cylinder with a valve opening upward at each end, the two valves being connected with a shaft. These valves open as the cylinder goes down, allowing the water to flow through it. On the top of the cylinder is a small propeller attached to a threaded shaft, and when the cylinder is drawn up this propeller revolves, screwing down the shaft, which in turn screws down onto the valves, sealing them hermetically, with the sample of water which was inside of the cylinder when the upward motion began. Some of the most interesting problems of deep sea investigation have been worked out from the water taken in this way.

A QUEER PROCEEDING.

Two Canadian sailors named John and Harvey Coomes, of St. Catharines, were stopped at Windsor by Inspector McGlogan on Saturday and ordered back to Canada, while on their way to Buffalo. John has been sailing out of Buffalo for sixteen years and Harvey for ten years.

LAKE FREIGHTS.

There is nothing yet doing in iron ore charters, but it is expected that a few days will develop business. Coal is inclined to be brisk, but at very low figures, the steamer Norwalk, Capt. E. F. Mattison, is loading, Cleveland to Racine, at 40 cents, and another large steamer for Sheboygan the rate quoted being only 25 cents, there are also considerable offers for coal to the head of the lakes, but the opening rate is so low, 20 cents, that few owners care about chartering without being fixed for a down cargo.

The first steamer is reported as leaving Chicago Thursday. In grain charters difficulty was found this week in getting 1½ cents and the outlook is not bright for obtaining fair figures at the early resumption of navigation. The steamer Aragon has been chartered, Toledo to Buffalo, 90,000 bushels wheat at 1¾ cents, an Oswego charter for 2¼ cents on corn and Kingston 2½ cents.

UNITED STATES SHIPPING.

CONTINUED FROM PAGE 5.

"Great Britain," he said, "would do everything short of going to war to prevent the passage of this bill."

Regarding commercial treaties with other nations, Mr. Elkins said: In entering into the treaties providing for maritime reciprocity the United States abandoned discriminating duties, which was the greatest protection American shipping ever enjoyed, and under which it prospered as it never has since. The true intent and meaning of these treaties was that, as between the contracting powers, carrying should be free and reciprocal, and in effect put upon an equal footing. The United States has observed the spirit of these treaties and has rendered but little or no aid or assistance to take the place of the protection enjoyed under discriminating duties. Other nations, especially Great Britain, France, Germany and Italy, have not observed the spirit of the treaties, but increased their subsidies and mail pay to ships and adopted other forms of aid to build up and protect their shipping. He presented a lengthy argument to show that subsidies would not accomplish the object sought. Great Britain could appropriate $2 for every $1 appropriated by the United States. We paid in mail subsidies now $800,000 a year to the American Line. England has paid in subsidies over $300,000,000 since 1800, and from 1858 to 1890 her ships received $8,628,530 from the United States for carrying the mails.

The United States pays $500,000 every day, or nearly $3 per capita per annum, to foreign shipowners for carrying what its people sell and buy. This enormous sum, or most of it, should be saved to the people and the country, and would be, under a proper policy of aid to shipping.

Free ships, he said, would not accomplish the desired result, but add another source of revenue to England, and English ships would still do the carrying of our foreign commerce.

If we had 100 of the finest steamers afloat we could not run them in competition with foreign ships. The conditions are not the same. Free ships would ruin our domestic coastwise shipping. Foreign shipbuilding would mean foreign shipowning. The free ship policy has been a failure in France, Germany, Austria and Italy. In case of war our shipping would be swept from the seas, as we would have no navy. A merchant marine is essential to a navy.

Mr. Elkins quoted from consular reports to show that American vessels seldom appear in foreign ports, where great amounts of goods are shipped yearly to the United States. From 1886 to 1896 but 15 American vessels passed through the Suez Canal, and 4 of these were war ships and yachts. He quoted statistics showing the millions of tons of goods that were carried to America, but only a small percentage in American ships. We expended $400,000 a year to maintain a consular service, presumably in the interest of building up American trade abroad, and yet these officers could do nothing if there were no American ships and all carrying was done in foreign vessels.

LAKE MARINE INSURANCE.

It is reported that among the companies in the syndicate formed to reduce rates on the American lakes is a leading London mutual marine assurance company, which has been "primed" up to take a very large percentage of the business procured by the brokers who hold the reins on the box-seat of the combination coach. It seems strange that at a time when English underwriters are endeavoring to put up rates a London company should go into a scheme which can have no other result than that of demoralizing rates on lake hulls. A peculiarly odd thing is that the combination should have succeeded in getting the London company in question to put the new venture in a position to successfully compete against the company's own New York agents.—Fairplay, London.

The firm of Randolph & Clowes, Waterbury, Conn., have just completed and shipped, the largest seamless drawn, copper tubes ever made in the United States. The dimensions of them are 24 inches inside diameter, ⅛ inch in thickness and 12 feet long. These tubes, made to the order of the Black & Clawson Co., Hamilton, O., are absolutely seamless, made from pure Lake Superior copper, cold drawn, of one piece of metal and will be used as steam cylinders in connection with a new evaporating machine which the Hamilton firm are now building. The dimensions of these copper tubes are well worth noting in connection with the fact that they are absolutely seamless and made from pure Lake Superior copper.

H. C. BURRELL,
Marine Reporter.

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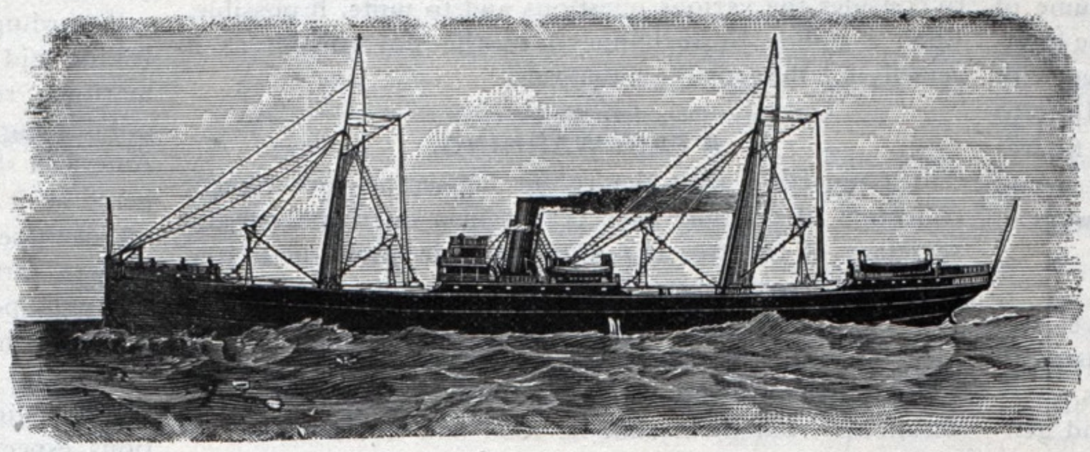

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MARITIME LAW.

(Collision While at Anchor.)

A case of great interest has recently been decided by Judge Hanford in the United States District Court, at Seattle, Wash. A year ago, April 13, the steamship Transit, a Norwegian vessel, of the Puget Sound and Central American Line, fouled the United States steamer Monterey, then lying near the dock where the freighter desired to load. An attempt was made to hold the commander of the Monterey, Nicoll Ludlow, responsible in damages, on the ground that she was lying without a permit inside a line where she had no right to be without such a permit. The court dismissed the case, with costs taxed to the plaintiff. The court says:

"The Transit did not respond to her helm, nor stop her headway until she had struck the Monterey with great force, doing considerable damage. The amended libel shows affirmatively that the Transit was in fault, for she failed to obey her helm, which fact proves that she was an unmanageable vessel, and her officers should have kept at a safe distance from other vessels, or else they should have proceeded so cautiously that by use of her machinery the Transit could have stopped and reversed in time to have avoided the collision. This fault on the part of the Transit, as shown by the amended libel, is sufficient in itself to account for the collision. It is not pretended that the Monterey did anything whatever to cause the collision, except to remain stationary in the way of the Transit; the libel, however, seeks to throw the blame upon her commander, by alleging that she was anchored at an improper place, and that a city ordinance of the city of Seattle was violated by anchoring the vessel in the harbor without a permit from the harbormaster, and without being assigned to a place for anchoring. The authorities cited by the libelant's proctor do not sustain the position he has taken, I will refer to them briefly. The Clara, 102 U. S. 200-203. In this case a small schooner, having no watch on deck, was lying at anchor inside the Delaware breakwater, on a very dark night, when vessels were constantly arriving, for shelter from an approaching storm, one of which, in proceeding to a proper anchorage, without any fault on her part, collided with and sunk the schooner. If a sufficient watch had been kept on deck of the latter, the collision might have been avoided. It was held that the vessel at anchor was wholly in fault. It appears by the opinion of the court that there was an entire failure to show that the other vessel was guilty of any fault of omission or commission, and so far from deciding that being anchored at an improper place was the controlling of the court that 'the failure to keep a proper watch on fact in fixing the liability, it is given as the conclusion deck of the Julia Newell, was the cause of the collision.'"

In the case of the Clara, 102 U. S., 200-203, the court shows that the controlling part fixing the liability on the vessel at anchor was that 'the failure to keep a proper watch on the deck of the Julia Newell was the cause of the collision." In the case of the Armoria, 67 Fed. Rep., 362-368, 17-29, Judge Butler held that the burden of proof was on the vessel at anchor in the night time to show that she was in a proper place, exhibited a proper light, and maintained a watch. In the case of the North Star, 106 U. S., 17-29, there is nothing to establish liability upon a vessel at anchor if struck by another vessel, if her position was known to those in charge of the incoming vessel in time for them to have avoided the collision. The case of the Manitoba, 122, U. S., 97-111, cited, has no bearing on the questions at issue here. Concluding, the learned judge says:

"A visible stationary object in any position cannot be regarded as the cause of an injury to a person, who, with full knowledge of its existence, unnecessarily comes in collision with it. The law does not authorize the application of destructive force against a wrong doer, when the wrong consists of a mere intrusion, without license, or a trespass upon uninclosed grounds or highways, whether public or private. I cannot regard the possession by Captain Ludlow of a permit from the harbormaster, or the want of it, as a circumstance having any influence whatever to cause or prevent the collision. I should be reluctant to hold the commander of a national ship to be an intruder in any port of the United States, in which she should choose to cast anchor, without permission previously obtained from the harbormaster. But it is unnecessary for me to pass upon the validity of the city ordinance, pleaded as a restriction upon the freedom of a commanding officer to choose for himself a place to anchor a public vessel of the United States. The most that could be claimed under the ordinance would be the right to have an intruding vessel removed to a place assigned to her by the harbormaster, or to collect from the offending captain the penalty for violation, prescribed by the ordinance. The principle involved is the same as in the case of The Blue Jacket, 144 U. S., 371-394, in which the Supreme Court of the United States decided that failure on the part of a steam tug to have on board a licensed mate, and to maintain a proper lookout while under way with a vessel in tow in the night time, in the Straits of Juan de Fuca, did not render the steam tug liable for damages caused by a collision, although the failure in the particulars mentioned was a flagrant violation of the positive requirements of United States statutes. The reason for the decision being that the violation of law was not the cause of the collision.

In view of all the facts alleged, it is my conclusion that no actionable wrong on the part of the defendant is shown, therefore the libel will be dismissed with costs."

LITERARY NOTE.

"With Lake Michigan in its dooryard, Chicago has been cut off for almost forty years from many of the advantages which cities usually derive from a water front. Extending from the mouth of the river southward nearly seven miles to Fifty-first street, a great railroad corporation has maintained a barrier of tracks, spiked fences, and stone walls which effectually prevented the public from approaching the lake." From this beginning the article on "Chicago's Lake Front Parks," contributed to Harper's Weekly of April 3, proceeds to outline the development of public spirit in Chicago which has led to the reclaiming of the lake front, and to the present collossal undertaking, supervised by Mr. D. H. Burnham, director of works at the World's Fair, which is to convert it into one of the most beautiful park systems of any city in the world. It is fully illustrated, one of the drawings giving an extended view of the Chicago water front as it will appear when the work is completed.

THE PINTSCH GAS BUOYS.

The Pintsch gas buoys used in the St. Lawrence River last season for the first time have given such excellent satisfaction that an additional appropriation has been secured from Congress for several more buoys to be placed the coming season. Canadian papers are strongly advocating an appropriation for the purchase of the buoys for Canadian waters.

The Pintsch buoy is made without rivets, the body forming a compact wrought iron vessel. It is filled with compressed Pintsch gas, and on the top is a patent storm proof lantern supported by a strong iron frame work. The flow of gas from the reservoir into the lantern is controlled by the Pintsch regulator, by means of which a clear light is maintained, no matter what may be the position of the buoy or how much it may toss in heavy seas. The storm proof lantern is so constructed that while the necessary air is admitted to feed the flame, not a particle of water can enter, no matter how high or heavy the sea. The most searching trials have shown that the lantern answers its purpose to the fullest extent. Neither the hardest gales, the force of the waves, nor even the momentary submerging of the lantern is able to extinguish the light. By means of a Fresnel lens the light is thrown to such a distance as to be distinctly visible for six or seven miles in clear weather.

The Pintsch buoys are of various sizes and burn continuously and reliably night and day, without attention, for from three months to one year, depending on their size. The refilling of a buoy is done by a tender by passing compressed Pintsch gas from a tank through a flexible tube into the buoy. This gas is the same as is now used to light the car of nearly all our principal railroads, and is obtained from the numerous Pintsch plants in operation over all parts of the country.

The steamer American Eagle, which has been running between Sandusky and the islands during the winter, will be taken off that route this week to be given a general overhauling.

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record by George F. Stone, Secretary Chicago Board of Trade.

Cities Where Stored.	Wheat. Bushels.	Corn. Bushels	Oats. Bushels.	Rye. Bushels.	Barley. Bushels.
Albany	.....	30,000	50,000	.....	10,000
Baltimore	509,000	2,409,000	153.000	94,000	.....
Boston	206,000	1,005,000	207 000	1.000	.....
Buffalo	705 000	195 000	84,000	94,000	608 000
" afloat	.....	113,000	81.000	69 000	.....
Chicago	1,002,000	7,720 000	5 926 000	1,340 000	156 000
" afloat	349,000	4 152,000	739,000	194 000	97 000
Cincinnati	.....	.....	10,000	.....	64 000
Detroit	258,000	82,000	5,000	40,000	21 000
" afloat	.....	.....	.....	.....	.....
Duluth and Superior	6,699,000	50,000	2.118,000	885 000	1,286,000
" afloat	497,000	.....	.....	.....	.....
Indianapolis	104,000	45,000	1,000	.....	.....
Kansas City	211.000	163 000	187,000	6,000	.....
Milwaukee	210,000	3,000	8 000	456 000	73,000
" afloat	.....	.....	.....	.....	95 000
Minneapolis	14,664,000	93,000	971 000	32,000	95 000
Montreal	504 ,000	21.000	805 000	74 000	42,000
New York	1,270,000	3,837,000	1,805 000	234,000	159 000
" afloat	466,000	61,000	.....	.....	22,000
Oswego	12,000	.....	.....	.....	18 000
Peoria	27,000	113 000	41,000	7,000	19,000
Philadelphia	229,000	1.452 000	64 000	.....	.....
St. Louis	474,000	1,448.000	151,000	19,000	2,000
" afloat	.....	200,000	.....	.....	.....
Toledo	1,926,000	1,976,000	58 000	107 000	.....
" afloat	.....	.....	.....	.....	.....
Toronto	127,000	.....	64,000	.....	45,000
On Canal	.....	.....	.....	.....	.....
On Lakes	.....	.....	.....	.....	.....
On Mississippi	.....	15,000	88 000	.....	.....
Grand Total	38 612,000	25,318 000	13,616,000	3 652,000	2,812,000
Corresponding Date 8196	60,322,000	16,989,000	9 020 000	1,523 000	1,140,000

NOTES.

Capt. John Devney, owner of the Devney shipyard, Ashtabula, will commence to build the hull for a new fish tug. The new boat, the material for which has been ordered, will be of about the same dimensions and model as the tug Effie B., built last season.

A steam pilot boat for the United New York Sandy Hook Pilots' Association has been launched at Wilmington, Delaware. She is 154 feet long, 28 feet beam, and 20 feet deep, with a draught of 13 feet in seagoing trim. The new craft is not the pioneer pilot boat at New York, as the associated pilots have used a chartered steamer for several months, but she is the first boat on this side of the Atlantic built purely for pilot service. Her advent marks the decline of the sailing pilot boat—the little craft with a large number on her mainsail, which has from time immemorial breasted the fiercest gales of the Atlantic carrying pilots to inbound vessels.

The Duluth, Missabe & Northern road will not build their proposed coal dock this year, at least. Plans have been prepared for a coal dock of 60,000 tons storage capacity, but it will not be constructed at present. The several coal companies will therefore this year, as usual, submit proposals for furnishing the coal for the road.

PROPOSAL.

U. S. Engineer Office, 366 Milwaukee street, Milwaukee, Wis., April 5, 1897.—Sealed proposals for dredging 50,000 cubic yards, more or less, at Green Bay Harbor, Wis., in Fox River below DePere, will be received here until 12 o'clock noon, May 6, 1897 , and then publicly opened. Information furnished on application. George A. Zinn, Capt. Engineers. 14-17.

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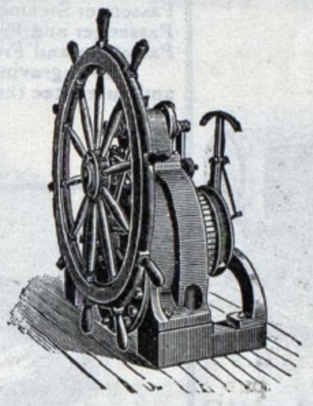

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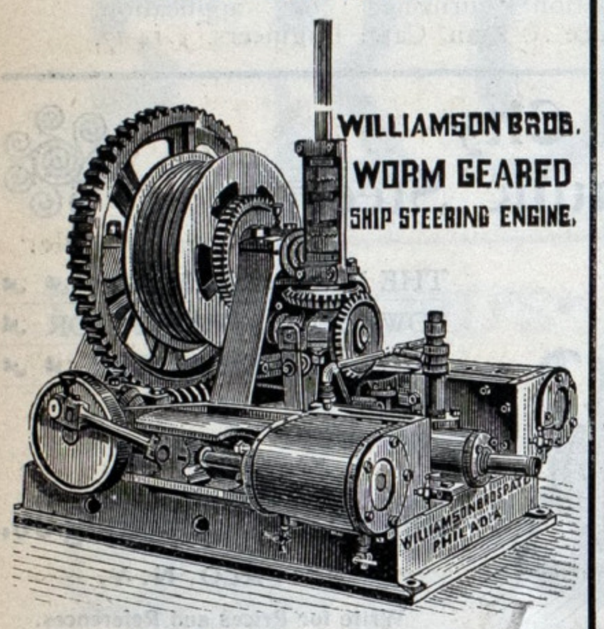

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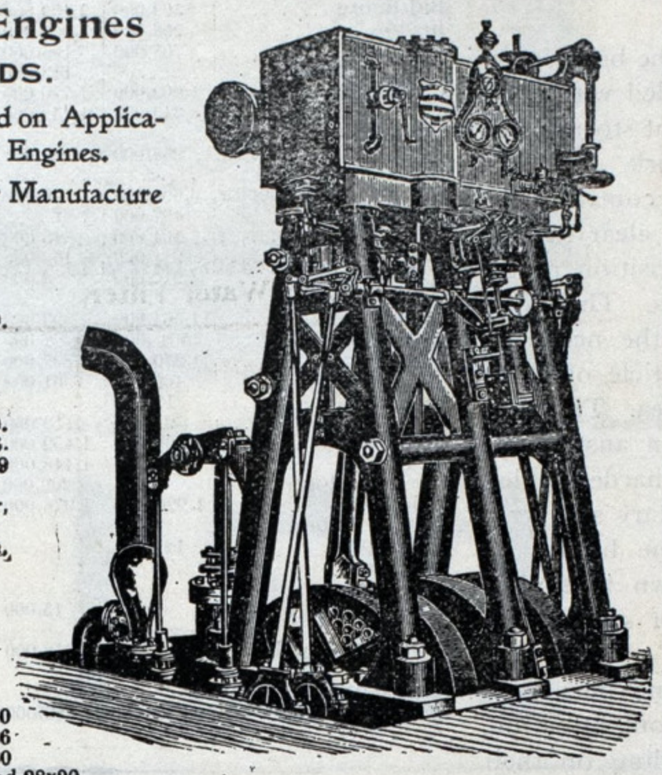

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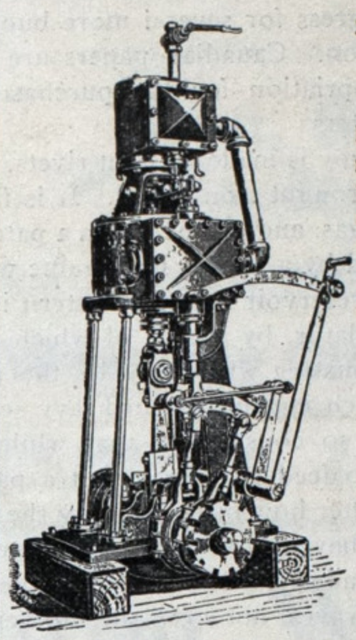

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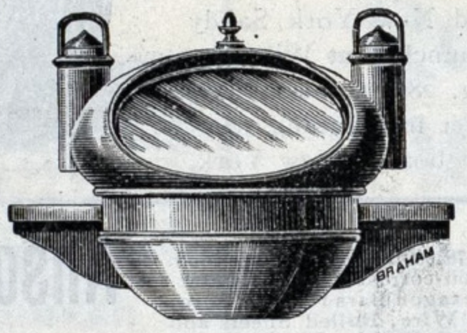

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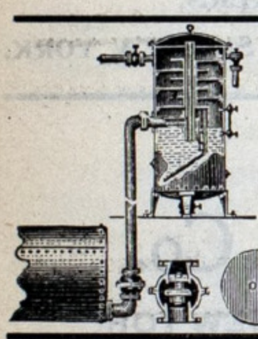

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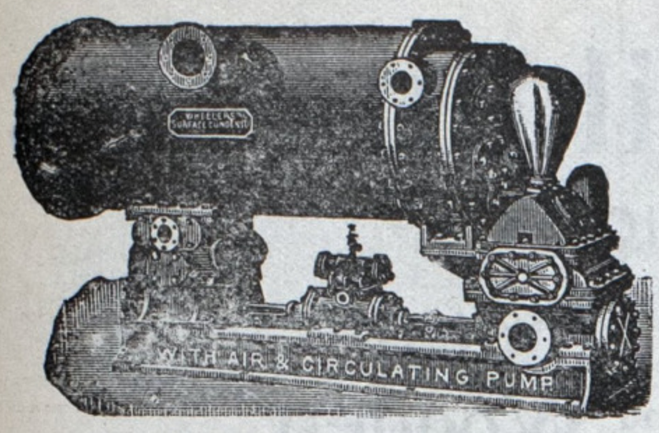

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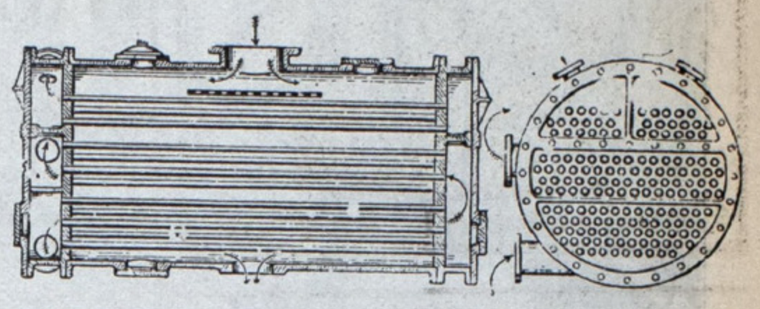

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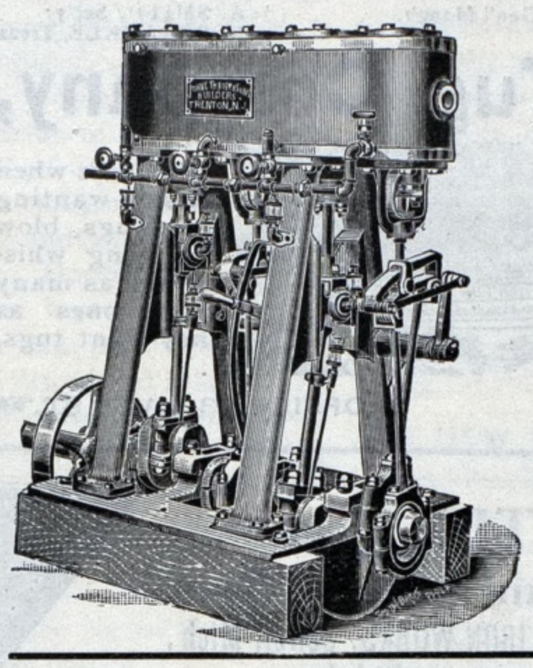

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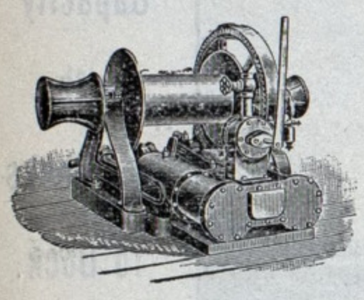

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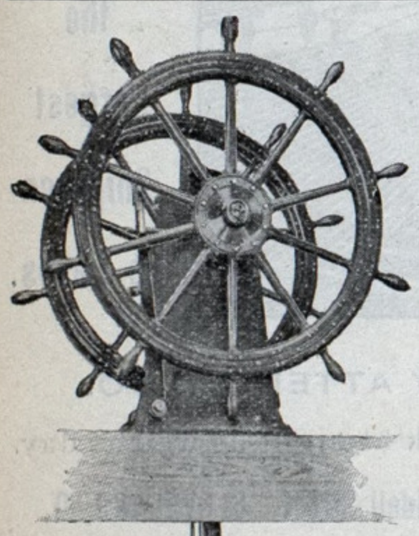

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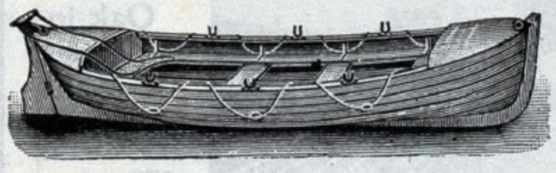

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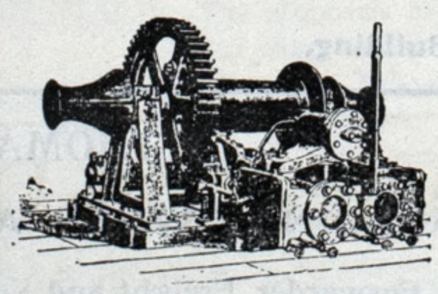

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See also Page 15.

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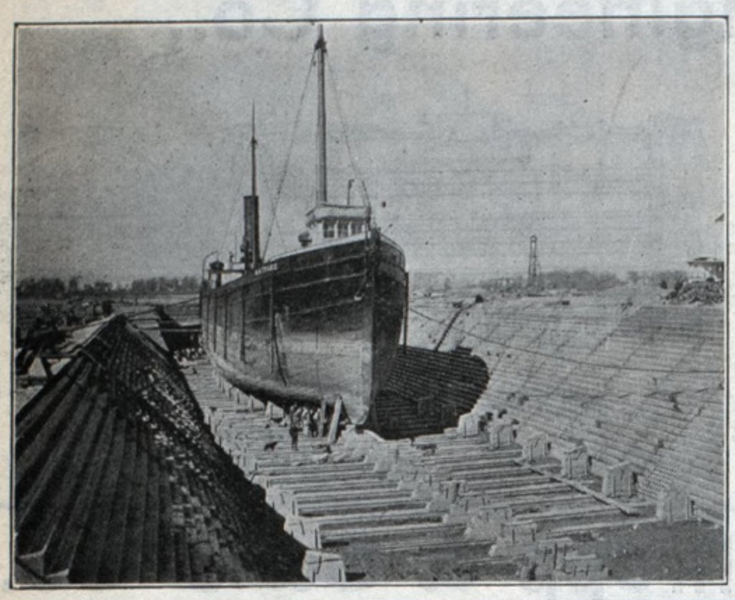

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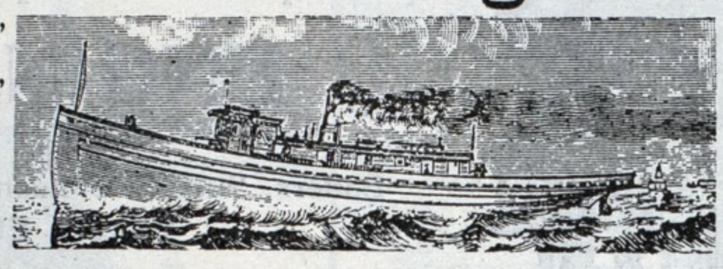

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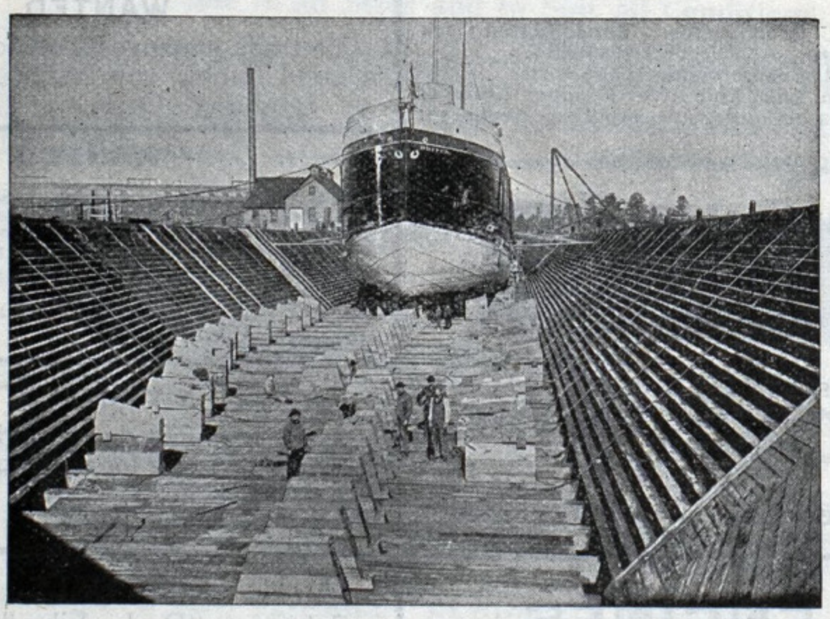

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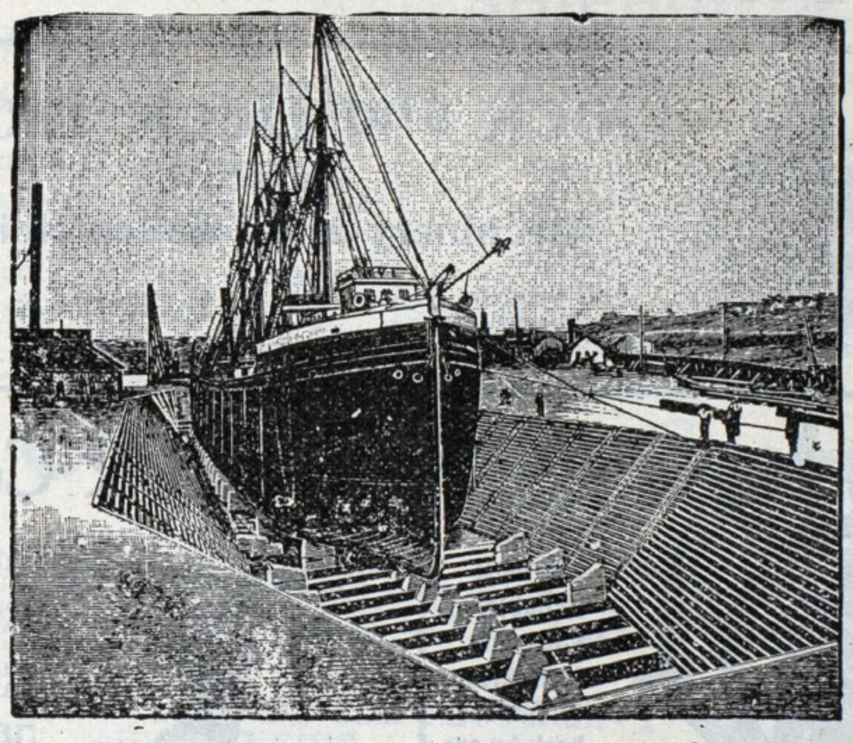

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